CURTIS'S

BOTANICAL MAGAZINE,

COMPRISING THE

Plants of the Royal Gardens of Kew,

AND

OF OTHER BOTANICAL ESTABLISHMENTS IN GREAT BRITAIN;

WITH SUITABLE DESCRIPTIONS;

BY

SIR WILLIAM JACKSON HOOKER, K.H., D.C.L., Oxon.

LL.D., F.R.S., and L.S., Vice-President of the Linnean Society, and Director of the Royal Gardens of Kew.

AND

OBSERVATIONS ON THE CULTURE OF EACH SPECIES;

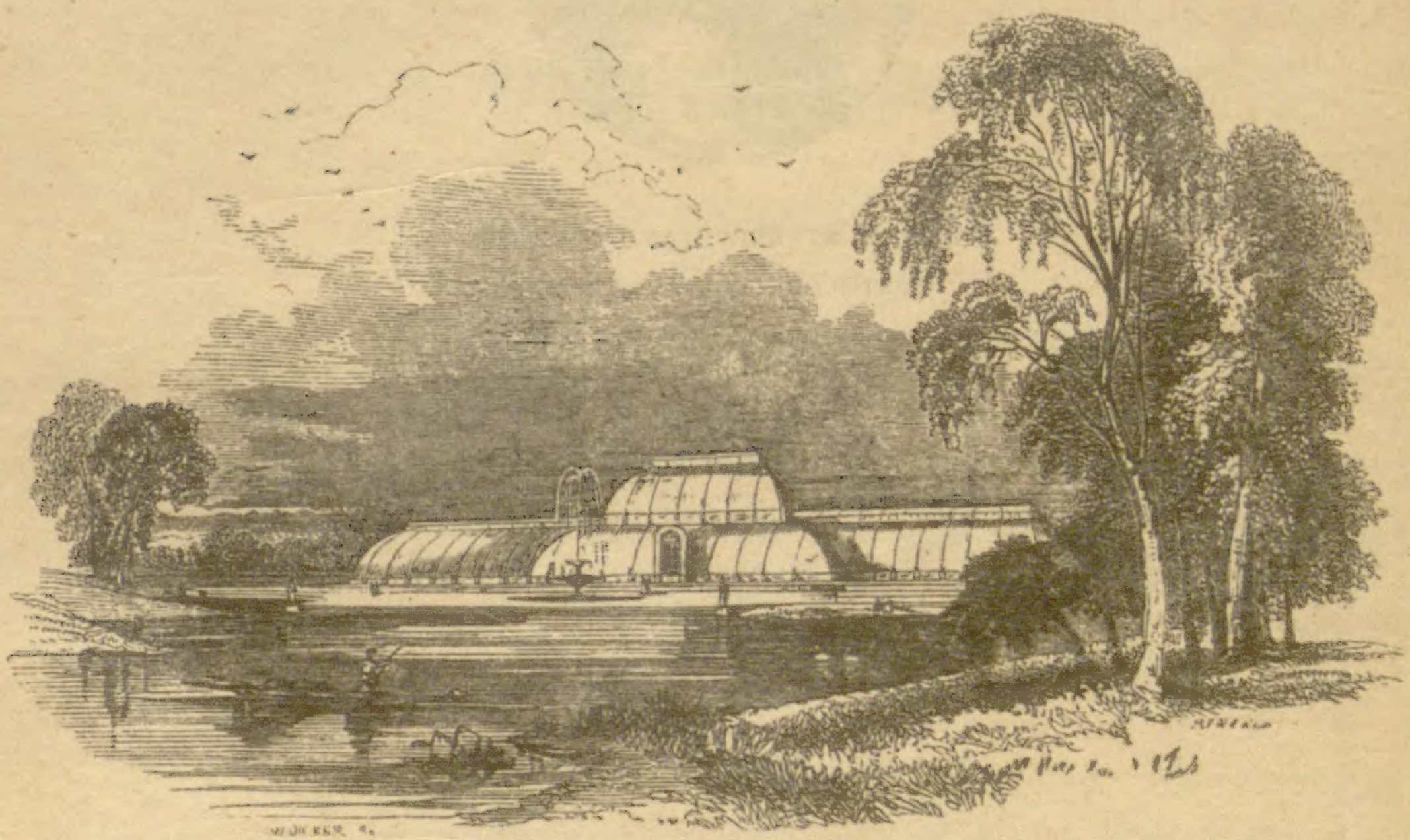
By Mr. JOHN SMITH, A.L.S.,

Curator of the Royal Gardens.

VOL. VI.

OF THE THIRD SERIES;

(Or Vol. LXXVI. of the Whole Work.)



"Ne vous bornez donc pas au seul plaisir des yeux,
En le connoissant plus vous en jouirez mieux."—*J. De Lille.*

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IT

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TO

DR. JOHN TORREY,

THE DISTINGUISHED AUTHOR

(IN CONJUNCTION WITH DR. ASA GRAY)

OF

THE FLORA OF NORTH AMERICA,

The Present Volume

IS INSCRIBED,

WITH SENTIMENTS OF GREAT REGARD AND AFFECTION,

BY

THE AUTHOR.

Royal Gardens, Kew,
Dec. 1st, 1850.

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Fitch del et lith.

R.B. & R. imp.

Tab. 4486.

ECHINOCACTUS RHODOPHTHALMUS.

Red-eyed Echinocactus.

Nat. Ord. Cacteæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4124.)

Echinocactus *rhodophthalmus*; solitarius subelatus conico-columnaris profunde 8–9-sulcatus, costis obtusis crenato-tuberculatis tuberculis compressis subhemisphæricis, areolis obsolete lanatis, aculeis subnovem validis rectis purpureo-fuscis demum pallidis, centrali subduplo majore, calycis tubo obconico squamoso inermi squamis sepalisve ovatis albomarginatis, petalis spathulatis roseis basi intense rubris.

Received from Mr. Staines, who procured it from the neighbourhood of San Luis Potosi, Mexico, and we do not find the description of any species to correspond with it. In its flourishing state it is exceedingly handsome, the deep red of the base of the petals forming a ring, as it were, round the densely-clustered stamens and bright yellow rays of the stigma, adding much to the beauty of the blossom. It flowers with us in August.

Descr. Our *plants* are from four to five inches high, subcolumnar, but tapering upwards almost from the base, deeply cut into about eight or nine furrows, the ridges obtuse, but formed into lobes or tubercles by transverse lines; the tubercles are subhemisphærical but compressed; the *areolæ* furnished with obscure wool: the *spines* about nine, strong, straight, tapering, flattened, at first deep purple, afterwards pale and almost colourless, length from three-quarters of an inch to an inch, mostly spreading, but the central one, which is much the longest and strongest, stands forward. The *flowers* are produced from the summit of the plant, large, handsome. The *calyx-tube* (or green portion) about an inch long, obconical, quite destitute of spines or setæ, but with the *scales* or *sepals* ovate, brown with pale margins, gradually passing into the long, linear-spathulate, acute, spreading, bright rose-coloured *petals*, which have a dark red almost crimson spot at the base, forming a radiating circle around the column of stamens and style. *Stamens* numerous, very compact: *filaments*

white, slender: *style* as long as the stamens: *stigma* of nine or ten spreading, bright yellow rays, covering the anthers. *W. J. H.*

Cult. At Tab. 4417 we have said that *Cacteæ* are almost indifferent as to the kind of soil they are grown in, provided it is not retentive of moisture. The present very pretty species will thrive in a mixture of light loam and leaf-mould, containing a small quantity of lime-rubbish nodules; the latter being for the purpose of keeping the mould from becoming close and compact, a condition not suitable to the soft and tender roots of the plant. If cultivated in a pot, it must be well drained; the pot being nearly half filled with broken potsherds, and the upper layer so placed as to cover the interstices, in order to prevent the mould from mixing with the drainage. During winter, Mexican *Cacteæ* do not require much artificial heat: several species are, indeed, known to bear with impunity a few degrees of frost. Where they can be cultivated by themselves, we recommend that the plants and atmosphere of the house should be kept in a dry state during winter, artificial heat being given only during a long continuance of damp cold weather or in severe frost; but at no time during winter needs the temperature of the house to exceed 50° at night. In sunny days in spring the house should be kept close, in order that the plants may receive the full benefit of the heat of the sun's rays. As the summer-heat increases air should be admitted, and occasionally the plants should be freely watered, and in hot weather daily syringed over-head. *J. S.*

Fitch del et lith.

R.B. & R. imp.

Tab. 4487.

VALORADIA PLUMBAGINOIDES.

Leadwort-like Valoradia.

Nat. Ord. Plumbagineæ.—Pentandria Monogynia.

Gen. Char. Calyx glumaceo-membranaceus, hyalinus, eglandulosus, pentaphyllus, *sepalis* linearibus trinerviis marginibus conniventibus tubum gamosepalum pentagonum apice cuspidato-quinquedentatum mentientibus, costæ 5 seu angulis ex nervis binis marginalibus sepalorum contiguorum oriundæ in sinus dentium abeuntes eisque alternæ. *Corolla* gamopetala, hypocraterimorpha, tubo calycem superante, limbo quinquepartito. *Stamina* 5, hypogyna, a corolla libera, ejus lobis opposita. *Antheræ* lineares, basi bifidæ. *Ovarium* lineari-oblongum, stylo terminali filiformi superatum. *Stigmata* 5, filiformia, latere interiori papilloso-glandulosa. *Utriculus* (ex Hochst.) sub-coriaceus, inferne quinque-valvis, apice calyptræformis. *Semen* (ex eod.) fusiforme subquinquecostatum.—Planta *perennis Chinensis, vel suffrutices* Abyssinici, foliis *setoso-ciliatis*, floribus *in capitula bracteata terminalia et axillaria congestis, singulo tribracteato*, bractea *exteriori concava lateralibus carinato-plicatis.* Calycis *insertione recti æstivatio valvaris, corollæ contorta. Boiss.*

Valoradia *plumbaginoides*; herbacea, ramis flexuosis angulosis parce setulosis foliis obovatis obtusis basi attenuatis margine ciliatis, floribus in glomerulos densos bracteatos 3–7-floros in axillis superioribus sessiles terminalesque dispositis, bracteis scariosis cuspidatis, corollæ limbi lobis obcordatis.

Valoradia plumbaginoides. *Boiss. in De Cand. Prodr. v.* 12. *p.* 695.

Ceratostigma plumbaginoides. *Bunge, Enum. Pl. Chin. p.* 55 (1831).

Plumbago Larpentæ. *Lindl. in Garden. Chron. v.* 6 (184). *p.* 732. *cum Ic. Boiss. in De Cand. Prodr. v.* 12. *p.* 694.

Under the name of *Plumbago Larpentæ* this (when well cultivated) really lovely plant, has among horticulturists been for the last two years a subject of much controversy, as regards its merits as a border flower. This will be alluded to by Mr. Smith under the head of "Culture." It was introduced to our country by Lady Larpent, from China, and we perform no enviable duty in restoring the original specific name (given to it so long ago as 1831); for we know no lady who has deserved better of botany and horticulture than Lady Larpent. Her garden, at Roehampton, was long distinguished by high cultivation and the rarity and beauty of the plants.

The species inhabits the vicinity of Pekin. We possess an original specimen from Bunge gathered there, and another from Mr. Fortune (his *n*. 33). We could have wished Boissier had retained Bunge's generic name, *Ceratostigma*, founded on *this* species, deriving that name from the minute ramifications of the stigmas resembling horns, while in the original *Valoradia* (established by Hochstetter in 1842) the glands are entirely sessile. On such grounds we should have to sacrifice a multitude of existing names.

Descr. *Root* perennial. *Stem* herbaceous, varying from six inches to a foot and a half high, flexuose, angled, and slightly setose, red, much and densely branched; *branches* upright. *Leaves* alternate, spreading, obovate, penninerved, obtuse, attenuated at the base, the lower ones almost petioled: the upper ones smaller and quite sessile, all ciliated. *Flowers* collected several together, into bracteated sessile, axillary or terminal *heads*. *Bracteas* scariose, tinged with red, cuspidate, ciliated along the back and at the margin. *Calyx* longer than the bracts, slender, tubular, glabrous, furrowed, terminated by five, subulate, appressed *teeth*. *Corolla* hypocrateriform: the *tube* longer than the calyx: the *limb* bright purple-blue: the *limb* regular, cut to its base into five heart-shaped, spreading *lobes*, slightly plaited and minutely toothed. *Stamens* monadelphous at the base. *Anthers* linear, exserted. *Ovary* oblong. *Style* glabrous, shorter than the stamens. *Stigmas* five, linear, beset on on the upper side with prominent clavate or slightly stipitate *glands*. *W. J. H.*

Cult. Although this plant is of but recent introduction, yet its rapid increase by cuttings has made it already very common in the gardens of this country. Owing to some circumstances connected with its introduction and dissemination, its cultivation and its merits as an ornamental flowering plant have been the subject of much discussion with cultivators, perhaps more than it deserves; for although it recommends itself to notice by its pretty blue flowers, yet, considering its relationship and the conditions under which it flourishes in its native country, we do not think it will give satisfaction as an ornamental plant to the generality of cultivators. We learn that it is a native of China, and has been observed as far north as Pekin; but that the plant was found in a wild state on the city walls of Shanghae, "growing out of the stone-work," and "on the raised ramparts," where it is said to be very ornamental. We naturally presume that a stone wall built by the hand of man is not its original place of growth; but as it has there become naturalized, we may infer that its natural habitat is in dry rocky places subject to great summer heat, and enduring a considerable de-

gree of cold in winter; for at Shanghae, during the summer months, the thermometer ranges from 100° to 110°, and falls in winter sometimes as low as 13°; a degree of cold not much less than that of many of our winters. This being the first year of its general cultivation here, it is, as might be expected, praised by some and called "worthless" by others; which no doubt arises from the different conditions and local influences under which the plants have been placed by cultivators. These conditions, probably, all differ more or less from those which cause it to become an ornamental plant in its native country, and are such as we cannot well supply, especially the principal element, viz., solar heat of a longer duration and a greater degree than our climate affords. With respect to the degree of cold it will bear, we have observed that it is injured by a few degrees of frost. Although it may live in the open ground in moderate winters, in the character of an herbaceous perennial, yet our protracted cold weather in spring will retard its growth, and thus, with a deficiency of heat in summer, it will make but little progress. With such views we consider it best to treat it as a tender plant, keeping it under protection during winter. If intended for the flower-border, the young plants should be placed in a warm pit or frame early in the spring, so as to have them in a forward state by the end of May; if required for an ornamental plant in the greenhouse, it may be potted in a mixture of peat-soil and vegetable mould, mixed with siftings of lime-rubbish, the pot being well drained, so that any excess of water will pass off freely. *J. S.*

Fig. 1. Pistil, with the base of the stamens. 2. Ovary. 3. Flower:—*magnified.*

Tab. 4488.

METROSIDEROS tomentosa.

Downy-leaved Metrosideros.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4471.)

Metrosideros *tomentosa*; foliis oppositis ellipticis coriaceis obtusiusculis brevissime petiolatis supra glabris subtus ramulis calycibusque cinereo-tomentosis, corymbis compositis terminalibus, pedicellis bi-trifloris, ovario turbinato-cylindraceo, petalis minutis, capsulis lævibus.

Metrosideros tomentosa. *A. Rich. F. Nov. Zel. p.* 336. *t.* 37. *All. Cunn. Bot. N. Zeal. in Ann. of Nat. Hist. v.* 3. *p.* 113. *Walp. Repert. v.* 2. *p.* 165.

Native of New Zealand, where it was discovered, in 1769, by Sir Joseph Banks, during the voyage of the illustrious Cook. "It inhabits," says Mr. Allan Cunningham (by whom it was introduced to the Royal Gardens of Kew), "usually the rocky sea-coast and shores of the Bay of Islands, where it is called by the natives *Pohutu-Kawa*, and is readily distinguished among other plants by the brilliancy and abundance of its flowers, enlivening the shores of the northern island with its blossoms in December. With us in the greenhouse it has attained the height of six feet, and attracted attention by its copious compact, but spreading ramification, and the abundance and beauty of its evergreen foliage. Its blossoming this year (for the first time) was probably encouraged by planting it out, by way of experiment, in the spring, in a sheltered part of the woods of the Pleasure-ground, in a soil of rich vegetable leaf-mould. During the summer, almost every branchlet was terminated by the vivid scarlet blossoms, and it became a conspicuous object at a distance. Already, however, (December 1849) the frosts have damaged the foliage, and, except those from the lofty mountains, we dare not hope that *any* of the New Zealand trees or shrubs will bear our inland winters in Great Britain.

Descr. In its native country it forms an "ordinary-sized *tree*,

the *wood* hard, close-grained, and heavy, equally valuable for ship-building and implements of husbandry." The younger *branches* green and downy. *Leaves* opposite, on very short thick *petioles*, elliptical and often obtuse, but varying to ovato-lanceolate, or even lanceolate and acute, coriaceous, under a lens minutely reticulated and dotted, dark green and glabrous above, pale, whitish or ash-colour, and downy or tomentosé beneath. *Corymbs* terminal, very tomentose: *pedicels* bearing two or three sessile *flowers* articulated upon them. *Ovary* or *calyx-tube* between cylindrical and turbinate, woolly, crowned by the five, spreading, ovate *calyx-lobes*. *Petals* yellow, minute. *Stamens* copious. *Filaments* very long, at first beautifully involute, at length erect, bright red. *Style* shorter than the stamens. *W. J. H.*

Cult. This beautiful *Metrosideros* is analogous in its manner of growth to the species figured at t. 4471. In its native country it is described as making its first appearance on other trees, as an epiphyte. By its strong and rapid growth it soon envelopes the parent tree, its woody roots descending till they reach the ground, and there spreading to a great extent, while the main roots, by their numbers and interlacings, ultimately become so combined that they form a trunk of a singular appearance and sometimes of an immense size. The original tree dies, and its decaying trunk becomes food for the parasite; the latter in this respect resembling the fig-trees of the tropics or the ivy of this country. It is also said to form a tree without the aid of others. With us it grows luxuriantly if planted in light loam and kept in a cool greenhouse, and forms a handsome evergreen bush. The figure here represented was made from an individual that had become too large for our greenhouse accommodation. As it afforded the opportunity of testing the degree of cold it would bear, a sheltered situation amongst trees was selected, where it was planted in May 1849. During the summer it flowered profusely, presenting a very striking appearance for an out-door shrub, and continued to flourish till the first frosts; but we observe with regret, that this fine shrub will not live in the open air where the thermometer falls a few degrees below the freezing point. It is a plant of free growth, and is readily propagated by cuttings. *J. S.*

Fig. 1. Flower, from which the stamens are removed:—*magnified.*

Fitch del et lith.

R.B. & R. imp.

Tab. 4489.

OPHELIA corymbosa.

Corymbose Ophelia.

Nat. Ord. Gentianeæ.—Tetrandria Monogynia.

Gen. Char. Calyx 5- 4-partitus, segmentis ima basi connexis valvaribus. *Corolla* marcescens, rotata, 5- 4-partita, plicis coronaque continua destituta, supra basin foveis glanduliferis nunc nudis nunc *squamula* sæpius fimbriata tectis et margine hinc fimbriatis instructa. *Stamina* 5, 4, corollæ fauci inserta, filamentis nunc basi dilatatis monadelphis nunc basi æqualibus liberis. *Antheræ* incumbentes, nutantes, sæpius virescentes. *Ovarium* uniloculare, ovulis suturæ insertis plurimis. *Stigmata* bina, terminalia, brevia, sæpius revoluta, stylo nullo v. brevi. *Capsula* bivalvis, septicida, unilocularis, placentis nunc spongiosis suturalibus nunc juxta suturas expansis. *Semina* placentis immersa, numerosissima, minima, plerumque exalata.—Herbæ *fere omnes Imaicolæ, annuæ v. rarius perennes, strictæ, ramosæ, paniculatæ, internodiis subæqualibus*, foliis *oppositis*, cymis *extremis umbelliformibus, hinc contractis. Griseb.*

Ophelia *corymbosa*; caule tetragono adscendente, ramis fastigiatis, foliis spathulatis ellipticisque hinc scabriusculis trinerviis, imis majoribus, caulinis breviusculis sessilibus, cymis fastigiatis paucifloris, pedicellis patenti-erectis, calycis segmentis linearibus acuminatis corolla $\frac{1}{3}$ brevioribus, corollæ 4-partitæ cœruleæ segmentis obovato-ellipticis mucronatis expansis, foveis minutis orbiculatis solitariis squamula apice fimbriata tectis fimbriarumque brevium serie cinctis, filamentis linearibus.

Ophelia corymbosa. *Griseb. Gent. p.* 317. *et in De Cand. Prodr. v.* 9. *p.* 125.
Swertia corymbosa. *Wight, MS. in Herb. Hook.*

Ophelia corymbosa of Grisebach was first described from Nilgherry specimens communicated to us many years ago by Dr. Wight, under the MS. name of *Swertia corymbosa*. Seeds of the plant have been recently sent to the Royal Gardens from the same country by Dr. Schmidt, and they flowered in a cool greenhouse in August 1849. Being only an annual, they would probably have succeeded quite as well in the open air. The plant is pretty, and, though not showy, will probably answer well for bedding out, as it continues long in blossom.

Descr. *Root* small, annual. *Stem* erect, a foot high, four-angled, slightly branched below; above, every pair of leaves

bears opposite *branches*, which become corymbose at the extremity. *Leaves* obovato-spathulate, slightly scabrous at the margin, the lower ones very obtuse, upper ones almost obovate and acute. *Corymbs* terminal; *bracts*, or uppermost leaves, often whorled and then bearing a fascicle of pedicels. *Calyx* of five, spreading, narrow, almost subulate *sepals*, shorter than the corolla. *Corolla* pale purple with a white eye, rotate, deeply cut into four spreading broadly obovate, veined *segments*, at the base of each of which is a nectariferous cavity, partially closed with a vein and a tuft of hairs. *Stamens* four: *filaments* erect, shorter than the pistil. *Ovary* ovate, acuminate: *style* scarcely any: *stigmas* two, short, obtuse, recurved. *W. J. H.*

Cult. A tender annual, of slender habit, possessing more interest for the botanist than as an object of show for the cultivator; and as it does not ripen its seeds freely, it may be expected to be a plant of not very frequent occurrence. Its seeds should be sown in the spring, in pots filled with light peat soil, and as they are small a slight pressure on the surface will suffice, no covering of mould being necessary. The pot should be placed in a warm pit or on a shelf near the glass in the stove, keeping it in an equable, moderately moist state, and shaded from the sun in the middle of the day. In watering, a fine rose water-pot must be used, so as not to disturb the seeds or the surface of the mould. In some cases like this, it is advisable to set the seed-pots in pans of water, the water rising to the surface of the mould by capillary attraction; but in adopting this method, care must be taken that the mould does not become saturated, which it is very apt to do while there are no roots to draw off the moisture. When the plants have attained sufficient strength, they should be thinned out and the pots removed to a cooler and more airy situation, preparatory to their removal to the greenhouse, where they will flower during the summer. *J. S.*

Fig. 1. Flower. 2. Petal. 3. Pistil:—*magnified.*

1.
2

Tab. 4490.

OXALIS elegans.

Elegant Wood-sorrel.

Nat. Ord. Oxalideæ.—Decandria Pentagynia.

Gen. Char. Cal. 5-sepalus, sepalis liberis aut basi coalitis. *Pet.* 5. *Stam.* 10: *filamentis* basi breviter monadelphis, 5 ext. alternis brevioribus. *Styli* 5, apice penicelliformes aut capitati. *Capsula* pentagona, oblonga, aut cylindracea.—Herbæ *perennes, caulescentes stipitatæ aut acaules*, foliis *variis sed nunquam abrupte pinnatis. De Cand.*

Oxalis (Caprinæ) *elegans*; glaberrima, foliis peltatim trifoliolatis longe petiolatis foliolis deltoideis vel subrhomboideis angulis obtusissimis, scapis longissimis 6–9-floris, sepalis acuminatis apice glandulis 4 linearibus aurantiacis, petalis violaceis basi intense purpureis, staminibus glabris longioribus squamigeris, stylis pubescentibus.

α. floribus majoribus pallidioribus, foliolis subtus purpureis. (*Left-hand figure.*)

Oxalis elegans. *H. B. K. Nov. Gen. Am. v.* 5. *p.* 234. *et* 466. *De Cand. Prodr. v.* 1. *p.* 695.

β. floribus minoribus, colore intensiore, foliolis subtus pallide viridibus.

Notwithstanding certain discrepancies between this plant and the figure of *Oxalis elegans* given by Humboldt, above quoted, I have every reason to believe it to be the same; allowance being made for that figure being executed from dried specimens. Some differences also are observable between the figure and description, for whereas the leaves are represented as hairy, the specific character speaks of them as glabrous. A more important difference is in the uniformly slightly dilated filaments of the stamens in Humboldt's figure, whereas the stamens of our plant exhibit the long stamens as furnished with a broad scale on the filament, the shorter ones subulate and naked; but this character is found to vary extremely in other flowers, and the filaments are even sometimes as uniformly subulate as in Humboldt's figure. The species inhabits the Andes of Loxa in Columbia, bordering on Peru, at an elevation of nearly 7,000 feet above the level of the sea. It was there detected by Humboldt, and it was thence sent by Mr. Wm. Lobb to Mr. Veitch, from whom our specimens were received. It appears to be quite hardy; and continuing,

as it does, flowering through the summer and autumn, it will probably make a good plant for bedding out. It is difficult to say which of the two varieties is the best. The flowers of var. *α.* are the largest, but the palest coloured: var. *β.* has the smaller but deepest coloured blossom. Whether the purple underside of the leaf is peculiar to *α.* or occasionally common to both, I cannot say.

Descr. *Roots*, we believe, tuberous. *Petioles* a span and more long, rising directly from the root and bearing three deltoid or subrhomboid *leaflets*, radiating as it were from a centre, glabrous, having obtuse angles, generally purple beneath in *α*, pale green beneath in *β*. *Scapes* longer than the petioles, glabrous, terminated by an umbel of from six to nine or ten handsome showy *flowers*. *Pedicels* at first deflexed, at length, in flower, erect or spreading. *Sepals* five, erect, appressed, lanceolate, somewhat mucronato-acuminate, bearing at the apex four slender, linear, orange-coloured *glands*, which unite into one at the very apex. *Petals* broad-oval, unguiculate, spreading. The entire *corolla* is of a purple colour, more or less deep, and varying a little in size: in the centre is an intensely dark purple eye. *Stamens* 10: *filaments* glabrous, monadelphous below; the five shorter ones naked, the five longer ones generally with a distinct large *scale*, but which is more or less obsolete in different flowers. *Styles* five, longer than the longest stamens, pubescent: *stigmas* dilated and umbilicated. *W. J. H.*

Cult. This pretty plant represents a form common to a large groupe of a very extensive genus, characterized as perennial plants having tuberous roots. The present species, being one of that groupe, and coming from the elevated region of Loxa, may be expected to prove hardy, especially if planted in a warm border, the precaution being taken to cover the border with a layer of dry leaves, fern, or other such light material, that will act as a non-conductor of frost. It is necessary, however, to be careful that such covering does not remain on too long, for it is apt to stimulate the tubers into premature growth. In cultivating this plant in pots, a mixture of light sandy loam and leaf-mould will be found to suit it. The tubers should be potted after the leaves decay in the autumn, and the pots placed in a cold frame and kept rather dry during winter. When they begin to grow, air must be freely given, and the supply of water increased in accordance with their advancing growth. No shading is required, as the flowers of most of the species only open under the full influence of the sun. *J. S.*

Fig. 1. Sepal. 2. Stamens and pistil:—*magnified.*

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Fitch, del et lith.

Reeve, Benham & Reeve, imp.

Tab. 4491.

MICROSPERMA BARTONIOIDES.

Bartonia-like Microsperma.

Nat. Ord. Loaseæ.—Polyadelphia Polyandria.

Gen. Char. *Calycis tubus* ovatus ovario adhærens, limbi laciniis 5 lanceolatis patentibus. *Petala* 5 patentia subovata. *Stamina* numerosa: *filamenta* pentadelpha, fasciculis cum petalorum basi junctis: *antheris* subrotundatis, ad marginem longitudinaliter dehiscentibus. *Ovarium* apice solummodo liberum in *stylum* filiformem demum deciduum attenuatum, *stigmate* indiviso 5-sulcato. *Capsula* unilocularis polysperma vertice quinquevalvis. *Receptacula* 5, filiformia parietalia longitudinalia. *Semina* numerosissima minutissima ovali-oblonga angulata.—Herbæ *Mexicanæ asperæ succulentæ*: caule *flexuoso*; foliis *cordato-ovatis longiuscule petiolatis lobatis serratis*, floribus *flavis racemosis v. subsolitariis.*

Microsperma *bartonioides*; foliis ovatis acutis lobatis serratis, pedunculis elongatis solitariis unifloris, floribus maximis, calycis lobis tubo duplo longioribus, petalis acutis, staminum filamentis petala superantibus.

Microsperma bartonioides. *Walp. Repert. v.* 5. *p.* 777.

Eucnida bartonioides. *Zuccarini in Linnæa, v.* 18. *p.* 500.

Specimens of this charming annual, rivalling the *Bartonia aurea* (from which no doubt it derives its specific name), were obligingly communicated to us, through Mr. G. Charlwood, of Covent Garden, by Mr. Booth of the Floetbeck Nursery, Hamburg, under the name of *Eucnida bartonioides*, accompanied by a very faithful description. It bears the open air like the *Bartonia*, is admirably suited for a border plant, and we trust that seeds of it will soon be, if they are not already, in the market. Dr. Walpers had perceived the close affinity of this with another plant, our *Microsperma lobata*, given in the 'Icones Plantarum Rar.,' III. tab. 234, and he very properly united it with that genus, of which it is nevertheless a very distinct and far more beautiful and showy species. It flowers through the summer months.

Descr. An herbaceous annual. *Stems* about a foot long, flexuose, succulent, subtranslucent, hispid. *Leaves* hispido-pubescent, on longish slender *petioles*, ovate, acute, lobed and serrated. *Peduncles* elongated, single-flowered, terminating the

ordinary branches, or short lateral branches, or the flowers may be said to be in a lax, leafy panicle. *Calyx-tube* adherent with the ovary, turbinate, very hispid, crowned by five lanceolate acuminate lobes, twice as long as the tube. *Petals* twice as long as the calyx-lobes, ovate or rather obovate, acute, obscurely serrated, sulphur-yellow, paler, almost white, beneath. *Stamens* arranged in two series and in five fascicles; each fascicle monadelphous at the base, and attached to the base of a petal: *filaments* very long. *Style* as long as the stamens: *stigma* entire, but with five longitudinal furrows. *W. J. H.*

Cult. Our acquaintance with this plant is limited; the only specimen we have seen came to the Royal Gardens in flower from Hamburg. It appears to be an annual, and closely allied in habit to *Bartonia*; but we fear it will not succeed out of doors as a summer border plant, on account of its soft, succulent nature, which makes it liable to injuries by heavy rain and wind. We therefore consider it best to treat it as a tender annual, sowing the seeds in a frame, and, when the plants have sufficient strength, plant them singly into pots, using a mixture of light loam and leaf-mould or sandy peat. The pots must be properly drained, and care taken not to over-water in damp weather, and to admit plenty of air, so as to keep the plants from becoming weak and drawn up. As they increase in size they will require to be shifted into larger pots, and when they begin to show flower they should be removed into the greenhouse. *J. S.*

Fig. 1. Anther. 2. Pistil. 3. Stigma. 4. Section of an ovary:—*magnified.*

R. B. & R. imp.

Tab. 4492.

ACANTHOPHIPPIUM Javanicum.

Javanese Acanthophippium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Perianthium* ventricosum. *Sepala* agglutinata, *lateralia* ungui columnæ adnata, *dorsale* cum petalis spathulatis fornicato. *Labellum* unguiculatum, cum basi longe producta columnæ articulatum, limbo trilobo indiviso complicato, disco lamellato. *Anthera* carnosa, bilocularis. *Pollinia* 8, inæqualia, sessilia.—Herbæ *terrestres, subcaulescentes.* Caulis *inferne bulbosus, vaginatus.* Folia *oblongo-lanceolata, plicata.* Pedunculus *vaginatus, pauciflorus.* Flores *speciosi. Lindl.*

Acanthophippium *Javanicum*; petalis triangularibus, labelli trilobi lobis lateralibus truncatis intermedio medio constructo apice ovato tuberculato basi utrinque carnoso dentibus truncatis emarginatis inflexis. *Lindl.*

Acanthophippium Javanicum. *Bl. Bijdr.* 353. *Lindl. Gen. et Sp. Orchid. p.* 177. *Bot. Reg.* 1847. *t.* 47.

A genus (the origin of whose name is unexplained) established by Blume upon a Java plant, detected in the woods of the mountain of Salak in Java. Introduced, we believe, by Messrs. Loddiges, before 1844. Some years previously, another species of the genus was sent from Ceylon, the *A. bicolor* of Lindl. in Bot. Reg. t. 1730. The present species is much the handsomest of the two, with larger flowers, beautifully veined with purplish-red and yellow, and altogether a very striking plant. It flowered at Kew very finely in July 1849.

Descr. *Pseudo-bulbs* elongated, cylindrical, jointed, when young clothed with large furrowed scales, and terminated by two or three ovato-lanceolate, rather membranaceous, striated *leaves.* From the base of the pseudo-bulb the short, thick, bracteated *scape* rises, shorter than the rest of the plant, and bearing about six or eight large handsome *flowers*, of a yellow colour, tinged and streaked with purplish-red. The *petals* and *sepals* are somewhat triangular-ovate, so placed that the entire flower is somewhat pitcher-shaped, with a remarkably oblique or gibbous base. *Lip* quite enclosed within this, lying up against

the column, the two side-lobes of the *epichilium* embracing the column just below the *stigma*: the *disk* crested. *Column* as long as the perianth, its base very decurrent. *Anther-case* flattened at the top. *W. J. H.*

Cult. From the circumstance that the roots of this Orchid adhere firmly to the inside of the pot in which it grows, we may infer that its natural habitat is in rocky places, where there is but little soil, and which are subject to a considerable degree of dryness during a part of the year. With us it grows freely, if potted in loose, turfy, peat soil, and kept in the warm division of the Orchideous house. It should be planted a few inches above the level of the mouth of the pot, and supported by a substantial drainage; for plants of this habit, when potted in loose soil, are very liable, by their gravity, to sink below the margin of the pot,—which not only gives the plant an unsightly appearance, but causes the pseudo-bulbs to become crowded and weak. This precaution is the more necessary, from the downward tendency of the pseudo-bulbs (a circumstance common to many bulbous-rooted genera), each successive formation being produced from the base of the previous ones, and being sessile in their attachment to them. They are thus liable to become, in time, a crowded mass in the pot. When this happens, it is advisable to divide the mass, and select the younger and healthier pseudo-bulbs, to be repotted in the manner described above. *J. S.*

Fig. 1. Column and lip. 2. Lip:—*slightly magnified.*

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3.

Fitch del et lith.

R.B. & R. imp.

Tab. 4493.

ZAUSCHNERIA Californica; *var.* LATIFOLIA.

Californian Zauschneria; broad-leaved var.

Nat. Ord. Onagrarieæ.—Octandria Monogynia.

Gen. Char. Calyx superus deciduus, tubo infundibuliformi cum ovario articulato colorato, basi supra ovarium globoso-ventricoso, limbo quadripartito. *Petala* 4, obcordata, bifida, summo tubi inserta. *Stam.* 8. *Filamenta* longe exserta. *Antheræ* lineares, dorso affixæ. *Ovarium* lineare, tetragonum; *stylus* filiformis, longe exsertus. *Stigma* peltato-4-lobum. *Capsula* linearis, tetragona, quadrivalvis, indistincte 4-locularis, polysperma. *Semina* oblonga, comosa.—Suffrutex *Californicus v. Mexicanus, decumbens*; foliis *alternis*; floribus *solitariis coccineis in axillis foliorum supremorum, seu spicatis, spicis foliosis.*

Zauschneria *Californica.*

α. foliis linearibus. Z. Californica, *Presl, Reliq. Hænk. v.* 2. *p.* 28. *tab.* 52. *Hook. et Arn. Bot. of Beech. Voy. pp.* 140, 340. *Torr. et Gr. Fl. N. Am. v.* 1. *p.* 486. *Benth. Pl. Hartw. p.* 310.

β. foliis lineari-lanceolatis. Z. Mexicana, *Presl, l. c. p.* 29. Z. Californica *β*, *Torr. et Gr. l. c.*

γ. latifolia; major, foliis ovatis. (Tab. Nostr. 4493.) Z. Californica, *Lindl. in Journ. Hort. Soc. v.* 3. *p.* 241. *cum Ic.*

Forty-five years ago this handsome plant was alluded to in an excellent Memoir on *Goniocarpus*, published by Mr. König in the 'Annals of Botany,' vol. i. p. 543, as existing in the Banksian Herbarium, "a beautiful new genus, a native of California, having the flowers of a *Fuchsia* and a fruit exactly like *Epilobium*." These specimens were doubtless those of Mr. Menzies, some of which we have also the good fortune to possess in our own herbarium. No further notice seems to have been taken of it till Presl, in the 2nd vol. of his 'Reliquiæ Hænkeanæ,' published it under the name of *Zauschneria*, in compliment to Dr. Zauschner, a Professor of Nat. History in the University of Prague. Presl added, though doubtfully, a second species from Mexico; but if we consider his two plants as distinct, we must here make a third, for our cultivated plant, as may be seen by Dr. Lindley's plant above quoted and by our figure, is as distinct from *Z. Mexicana*, as that is from *Z. Californica*. In some of Mr.

Menzies' original specimens the leaves are almost acicular, and from the smallness of the upper leaves or bracteas, the flowers are truly spicate. It makes an excellent plant for bedding out, and our gardens are indebted to the Horticultural Society for its introduction, through their collector Mr. Hartweg.

Descr. A low half-shrubby *plant*, varying extremely in downiness upon the young branches and foliage. *Leaves* also extremely variable in size and shape, and in the margin, generally in native specimens linear or linear-lanceolate, but broader and quite ovate in our var. γ: all of them alternate, remote or crowded: the upper ones in our plant scarcely diminishing in size; in other individuals, becoming small bracteas, one beneath each flower. *Flowers* axillary, sessile, solitary. *Calyx* very long, red, the lower portion united with the slender linear *ovary*; above the ovary the calyx-tube is funnel-shaped, striated, very narrow below the middle, at the base swollen and articulated (and eventually deciduous) upon the ovary: *limb* of four lanceolate segments. Within the mouth of the calyx are eight roundish *scales*, four erect and four deflexed. *Petals* four, deep red, obcordate, bifid, shorter than the segments of the calyx. *Stamens* eight: *filaments* much exserted: *anthers* linear, fixed by the middle of the back. *Style* longer than the stamens, filiform: *stigma* peltate, four-lobed. *Fruit* four-valved, as in *Epilobium*, imperfectly four-celled. *Seeds* numerous, *comose*. *W. J. H.*

Cult. This is a perennial plant, becoming somewhat suffruticose towards autumn. It is closely allied to *Epilobium*, and, like most species of that genus, increases rapidly by its numerous surculose roots (underground shoots). It is of easy cultivation, growing freely on dry, good garden-soil. Its showy flowers are produced abundantly during the latter part of the summer; and, as it continues a long time in flower, it is worthy of being grown in a pot, as an ornamental plant for the conservatory. It is also deserving of a place in the flower-garden, as a bedding plant, especially where variety is wanted; for although its thin and spare habit is rather against it, yet, by planting thick and stopping back the shoots early in the season, the bed may be made to assume a very fair degree of compactness before the end of the summer. From the appearance of its roots at the time we write, we infer that it will prove a hardy perennial; but in exposed situations it may be advisable to cover it over with leaves or some such covering. It is increased readily by division of the roots, also by cuttings and seeds. *J. S.*

Fig. 1. Capsule. 2. Section of the calyx-tube. 3. Pistil:—*more or less magnified.*

44.94

Tab. 4494.

DIPTERACANTHUS SPECTABILIS.

Handsome-flowered Dipteracanthus.

Nat. Ord. Acanthaceæ.—Didynamia Angiospermia.

Gen. Char. Cal. æqualis, plus minus profunde 5-fidus. *Cor.* infundibuliformis, *limbo* subæquali 5-fido. *Stamina* didynama, inclusa, *filamentis* basi contiguis aut conjunctis; *antheræ* lineari-sagittatæ, loculis parallelis æqualibus muticis. *Stigma* bilamellatum, basi nodulosum. *Capsula* basi compressa asperma, plerumque a medio, raro proprius a basi, 2–8–12–16-sperma. *Dissepimentum* in medio membranaceum, denique maximam partem evanescens. *Retinacula* uncinata, præmorsa. *Semina* orbiculata, compressa, margine tumido discreto cincta. —Herbæ *Americanæ, Asiaticæ, paucæ Africanæ et Australasicæ, repentes vel erectæ, molliusculæ, rarius* frutices. Flores *aut omnes aut inferiores saltem axillares, vel solitarii vel fasciculati, sessiles vel pedunculati, supremi subinde in racemum parvibracteatum collecti.* Bracteæ *duæ majores foliaceæ, sæpe petiolatæ, subjectæ calyci vel fasciculo; in racemis minores et angustiores.* Bracteolæ *vel nullæ vel exiguæ. Formæ anomalæ: capsula abortu tetra- vel disperma, ovulis tamen sterilibus adjectis semini. Nees.*

Dipteracanthus *spectabilis*: herbaceus subpubescens, caule quadrangulari erecto ramoso, foliis ovatis acuminatis ciliatis basi in petiolum perbrevem attenuatis, floribus geminis axillaribus sessilibus ebracteolatis, calycis profunde divisi laciniis subulatis erectis, corollæ (maximæ) tubo geniculato-curvato inferne angusto superne sensim dilatato, limbi (fere 3 poll. lati) lobis subæqualibus rotundatis venosis margine crenato, capsulis vix pubescentibus 10–12-spermis.

This is unquestionably the largest-flowered plant of this genus, if not of the Order, the corolla being much larger than that of *D. grandiflorus*, Nees (from the same country), of a rich deep purple blue colour, marked with dark veins, so that it is eminently worthy of cultivation in every stove. The seeds were sent to Mr. Veitch from the Andes of Peru, by Mr. William Lobb, and the handsome flowers were in perfection in Mr. Veitch's stove in August 1849; and to the latter gentleman we are indebted for the opportunity of figuring it. The entire absence of bracts or bracteoles to the flowers will at once distinguish this from *D. grandiflorus*, and indeed brings it into another division of this rather extensive genus.

February 1st, 1850.

Descr. *Plant* two feet or more high, much branched, erect: the *stem* and *branches* four-angled. *Leaves* opposite, moderately large, nearly sessile, ovate, acuminate, attenuate at the base, ciliated at the margin, slightly pubescent on the surface, rather strongly veined and reticulated. *Flowers* sessile or very nearly so, two together from the axils of the upper leaves, large, very showy. *Calyx* quite without bracts or bracteoles, deeply cut into five erect, subulate *lobes*, much shorter than the funnel-shaped curved tube of the corolla: the *limb* very large, purple blue, veined, the five lobes rotundate, spreading, crenate and somewhat waved at the margins. *Stamens* included. *Ovary* ovate, downy, seated on a large disk. *Style* as long as the tube of the corolla: *stigma* of two very unequal lobes. *Capsule* obovato-clavate, acute, slightly downy, bearing eight or ten lenticular *seeds*. *W. J. H.*

Cult. A soft-wooded plant of herbaceous aspect, growing from one to two feet high. It is a native of the temperate climate of Cuença, in Peru. It is found to succeed in a temperature intermediate between that of the stove and greenhouse, and grows freely in any kind of light garden soil. Like many of the tropical *Acanthaceæ*, after flowering it soon becomes thin and naked. It propagates freely by cuttings. The young plants should be kept in small pots during winter, and receive very little water. In the spring they require to be shifted into a large pot, where they will soon make rapid progress, and produce a succession of large fine blue flowers. *J. S.*

Fig. 1. Calyx and pistil. 2. Ovary :—*magnified.*

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Tab. 4495.

CLEMATIS GRAVEOLENS.

Heavy-scented Traveller's Joy.

Nat. Ord. Ranunculaceæ.—Polyandria Polygynia.

Gen. Char. (*Vide supra*, Tab. 4259.)

Clematis (Flammula) *graveolens*; scandens glaberrima gracilis, caule filiformi obtuse angulato, foliis pinnatim bi-triternatis, foliolis parvis 3-partitis 3-lobisque laciniis ovatis integris nunc hinc inciso-serratis, pedunculis axillaribus elongatis unifloris folio longioribus, sepalis 4 ovatis acutis crassis intus pubescentibus, filamentis subulatis hirsutis, achæniis pubescentibus caudis plumosis.

Clematis graveolens. *Lindl. in Journ. of Hort. Soc. v.* 1. *p.* 307. *cum Ic.*

A small but elegant climbing species of *Clematis*, quite hardy when planted against a wall, as may be expected from the fact that it is a native of Chinese Tartary and the snowy passes of Western Himalaya, at an elevation of 12,000 feet above the level of the sea. In such situations it was detected by our friend Capt. Wm. Munro, of the — Regt., who sent seeds of it to England in 1844; and, in similar localities, it was found three years afterwards by Dr. Thomas Thomson, during his interesting journeys into Thibet (as related in the recent volumes of the 'London Journal of Botany'), who sent the seeds to the Botanic Gardens of Kew. It flowers through the summer months. We could scarcely perceive any odour in the flower of our plant; but that may depend on the state of the atmosphere.

Descr. Our plant attains a height of about six feet, forming a much branching climbing glabrous shrub. *Branches* slender, obtusely angled. *Leaves* opposite, variously divided in a pinnated manner, bi- or triternate; the *leaflets* all petioled, ovate or lanceolate, entire or one- or two-lobed, *lobes* acute or acuminate. *Peduncles* longer than the leaves, slender, single-flowered. *Buds* drooping. *Flowers* inclined, moderately large, pale yellowish-green. *Sepals* four, spreading, ovate, acute, rather thick, silky in the inside. *Stamens* numerous: *filaments* subulate, hairy:

anthers oblong, adnate. *Achænia* downy, terminated with long feathery *tails*, which are a little hooked at the extremity. *W. J. H.*

Cult. One of a very common genus of plants, which now numbers about 150 described species, natives chiefly of temperate climates. A few are herbaceous perennials; but by far the greater portion are deciduous and evergreen ligneous creepers, supporting themselves by their tendril-formed petioles, and growing in a crowded manner over bushes and trees: the present species is of the latter kind. It has been under our observation for two years, and appears to be quite hardy. It will grow in any kind of garden-soil, and, like its congeners, is suitable for covering trellis-work or for planting against a wall; but it does not appear to be a strong growing species. It is readily increased by cuttings and seeds. *J. S.*

Fig. 1, 2. Stamens:—*magnified.*

4496

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Fitch del et Lith

Reeve Benham & Reeve imp.

Tab. 4496.

CŒLOGYNE Wallichii.

Dr. Wallich's Cœlogyne.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4440.)

Cœlogyne *Wallichiana*; pseudo-bulbis ampullaceis vaginisque duris tuberculatis, pedunculis radicalibus unifloris basi vaginatis, labelli trilobi basi saccati lobis lateralibus integerrimis cum intermedio denticulato crispo apice truncato integerrimo plicato apiculato confluentibus, disci cristis 4–5 incompletis denticulatis, columna apice dentata. *Lindl.*

Cœlogyne Wallichiana. *Lindl. Gen. et Sp. Orchid. p.* 43. *Wall. Pl. Asiat. Rar. v.* 1. *p.* 46. *t.* 54. *Bot. Reg.* 1840. *t.* 24.

Discovered by Dr. Wallich in the mountain district of Sylhet and Khasiya, and found in great abundance also by Dr. Hooker as he approached Darjeeling in Sikkim-Himalaya, and from him the specimens are derived, which are here represented. Its range seems to be confined to the eastern extremity of the Sub-Himalayan chain. Handsome as this plant is, individually (for only one flower arises at a time from each pseudo-bulb, and *that* always at a period when the leaf is absent), yet our representation of three flowering pseudo-bulbs can give no idea of the beauty of a tuft of more than twenty such bulbs, each with its flower densely compacted, which I had the gratification of seeing during my last visit to Chatsworth. Truly, next to the flowering *Victoria*, this was the most interesting of the many botanical rarities collected in that princely place. It flowers in the summer and autumn.

Descr. The *pseudo-bulbs* are no less singular than the flowers are beautiful: they are flagon-shaped, dark green, warted, and frequently covered with a strong veining of loose net-work, formed by the old sheath. From the top of this pseudo-bulb, the broadly-lanceolate, solitary, membranaceous, plaited *leaf* arises; and it is not till after its decay and disappearance, that the *flower* springs laterally from the pseudo-bulb. It is almost

sessile, with a few sheathing spotted *scales* at the base, large, of most delicate texture and colours. *Sepals* lanceolate, long, spreading or slightly recurved, pink. *Petals* equally spreading and resembling them, but smaller. *Lip* large, standing forward, obovate, saccate at the base, the side-lobes complicato-connivent over the column; the intermediate lobe (almost continuous with the long lateral lobes) is dentato-fimbriate at the margin, recurved; and the disk of the lip is furnished with five crested longitudinal lamellæ: the colour of the lip is pink, white, and yellow, here and there dashed with red spots. *Column* very long, with a three-lobed wing at the apex surrounding the anther. *W. J. H.*

Cult. A pretty Orchid, belonging to a group of *Cœlogyne* which differs from the rest of the genus in not being epiphytal, but growing on the ground in moist turfy places. The tender pseudo-bulbs are found on the surface, or but little immersed; and the plant is in many respects analogous to the well-known *Bletia hyacinthina*, and other species of that genus. After the plant has flowered the leaves appear, and at their base the new pseudo-bulb begins to be formed. At this period it should be kept moderately moist and warm; but after the bulb is fully formed, and the leaves decay, the supply of moisture must be lessened, only sufficient being given to keep the mould from becoming quite hard and dry. It appears to thrive best when kept in the cool division of the Orchideous house, and placed near the glass. Turfy peat, mixed with a portion of chopped sphagnum moss, will suit it, care being taken that the pot be well drained, and that it never be allowed to remain long saturated with water. On account of the old bulbs dying soon after the new ones are formed, it increases but slowly. *J. S.*

Fig. 1. Column. 2. Apex of the column and anther. 3. Pollen masses:—*magnified.*

4497.

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Fitch, del et lith

R, B. & R. imp

Tab. 4497.

PENTSTEMON CORDIFOLIUS.

Heart-leaved Pentstemon.

Nat. Ord. Scrophularineæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4319.)

Pentstemon (§ Elmigera) *cordifolius*; glaber vel pruinoso-puberulus, foliis breviter petiolatis lato-ovatis orbiculatisve integerrimis vel arguto-dentatis margine revolutis, panicula laxa foliata, corollæ tubo longo vix dilatato, filamento sterili dense barbato. *Benth.*

Pentstemon cordifolius. *Benth. Scroph. Ind. p.* 7. *adnot. Hook. et Arn. Bot. of Beech. Voy. p.* 376. *Benth. in De Cand. Prodr. v.* 10. *p.* 329. *Lindl. Journ. of Hort. Soc. v.* 5. *p.* 87. *cum Ic.*

A really shrubby and, as recorded by Dr. Lindley, though it has not proved so this winter (1849–50) with us, hardy plant, copiously branched, and at first, with its numerous very leafy branches, not having much the aspect of a *Pentstemon*. Such, however, it really is, and a native of California, where it was detected by Mr. Douglas in 1831: and does not appear to have been found by any traveller since, till Mr. Hartweg met with it on the mountain of Santa Inez in California in 1848, when seeds were sent by him to the Horticultural Society. It produces its bright scarlet flowers among the copious foliage during the summer months.

Descr. A rather weak and straggling *shrub*; but with a little support and training it become a very handsome one, with obscurely four-sided *stems* and branches. *Leaves* cordate, acute, nearly sessile, subcoriaceous, evergreen (?), strongly and coarsely serrated. *Flowering-branches* numerous, leafy, bearing several opposite *branchlets*, which are terminated by a moderately-sized flower. *Pedicels* glandular. *Calyx* large in proportion to the flower, glandular, cut to the base into five rather unequal, lanceolate, acute, erecto-patent *lobes*. *Corolla* an inch and a half or nearly two inches long, bright scarlet: the *tube* almost cylin-

drical, straight, or very slightly curved: the *limb* deeply two-lipped; upper lip straight, linear, emarginate at the point, lower lip spreading out into three linear obtuse segments. *Stamens* longer than the tube: *anthers* ovate: *fifth* or *sterile filament* with a remarkably strong beard on one side, resembling a brush. *Ovary* ovate, seated on a fleshy *disk*: *style* as long as the filaments of the stamens: *stigma* obtuse. *W. J. H.*

Cult. This very distinct species of *Pentstemon* is of a slender, suffruticose, spreading habit, growing luxuriantly and flowering freely during the summer. It appears well-suited for ornamenting the fronts of shrubberies and flower-borders; but we fear it may not prove hardy, for it was much injured by the first frosts of last October, and at this time we see no symptoms of life above-ground. It will, therefore, be best to treat it as a half-hardy plant, covering it over on the approach of winter with dry leaves or other loose protecting material; but as it is easily increased by cuttings, a stock should be kept in small pots in a cool frame, ready for planting out in the spring. *J. S.*

Fig. 1. Stamens. 2. Pistil:—*magnified.*

Tab. 4498.

CEREUS TWEEDIEI.

Mr. Tweedie's Golden-flowered Cereus.

Nat. Ord. Cacteæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4417.)

Cereus *Tweediei*; erectus cylindraceus glaucus polygonus, costis obtusis æqualibus (non tuberculatis), areolis copiosis ovalibus fusco-lanatis, spinis numerosis inæqualibus 4–5 validioribus albis fusco-variegatis quorum 3–4 erecto-patentibus, unico cum reliquis minoribus albis omnibus deflexis, floribus numerosis lateralibus aurantiacis, tubi calycini elongati curvati colorati squamis remotis inferioribus ciliatis, fauce obliqua, petalis brevissimis vix calycem æquantibus, staminibus inæqualibus superioribus longioribus exsertis.

One of the prettiest of the *Cereus* group of *Cacteæ*, of a peculiarly glaucous tint, bearing in the latter end of summer, when little more than a foot high, copious, rather large, and very handsome flowers, elegant in shape and bright in colour. We are indebted for the possession of our largest and flowering plant at Kew, to Messrs. Lee, of the Hammersmith Nursery, but we received seeds from Buenos Ayres through Mr. Tweedie. It flowered for the first time in September 1849. I can find no species described that at all corresponds with it.

Descr. Our tallest plants are about a foot to a foot and a half high, and an inch in diameter, of a very glaucous green hue, simple, but increasing readily by offsets at the base. The shape is cylindrical, very slightly tapering upwards, numbered with many, about sixteen, moderately deep furrows, perfectly straight, the ridges obtuse and even (not tubercled or mammillate). *Areolæ* on the ridges approximate, oval, woolly, the wool brown. *Spines* many from each areola, of which four or five are stouter than the rest, white, blotched with brown, and of these stout ones three or four (half to three-quarters of an inch long) are erecto-patent; a solitary stout one generally together with the other lesser ones, which are white, all point downwards. *Flowers*, of a rich orange-crimson, are numerous from the side of the stem, three inches

long, curved upwards, the mouth oblique. *Calyx-tube* funnel-shaped, the scales remote, subulate, appressed, lower ones ciliated with white hairs. *Petals* small, scarcely longer than the teeth of the calyx, deep yellow, acute. *Stamens* lying against the upper side of the tube, and there much longer than the flower: lower ones scarcely protruded. *Anthers* deep purple. *W. J. H.*

Cult. A pretty species of *Cereus*, of an erect, stiff habit, and apparently not of tall stature, having produced its flowers when less than two feet high. It grows freely in a soil composed of light loam, leaf-mould, and sand, care being taken that it be not retentive of water. The pot should be well drained, and the mould must never continue long saturated. The latter precaution is especially to be observed in winter, for during that season the plant requires little or no water. We are not acquainted with its native locality, but judging from the climate of Buenos Ayres, we may suppose that it endures great extremes of temperature, and often long droughts; the thermometer in summer sometimes rising to 94°, and in winter falling so low as 36°; the mean temperature of summer and winter being respectively 72° and 54°. With us, a night temperature averaging 50° during the winter suits it; but in severe weather it is not advisable to maintain that heat, for the plant does not suffer even when the thermometer is 10 to 15 degrees lower. When this is the case, however, it is desirable that a corresponding rise be maintained during the day. As the warmth of spring increases, the plant should be moderately supplied with water. In summer it should be allowed to receive the full power of the sun, with occasional syringeing over head: this operation must be performed after the heat of the day has declined, or early in the morning. *J. S.*

Fig. 1. Areola and cluster of spines:—*magnified*.

[In our last number, under *Cœlogyne Wallichii* (Tab. 4496.), we spoke, from memory only, of the extreme beauty of that plant at Chatsworth, Mr. Paxton has been so obliging as to inform us, it consisted of "eight pseudo-bulbs, which bore twenty-eight flowers: three of the pseudo-bulbs were large, three of a medium size, and two small. The three large ones each produced three flower-stems, and two out of three on each bulb were biflorous. Of the three medium-sized ones, one had four flower-stems, and the other two had three stems each, all single-flowered. One of the two small bulbs bore two flowers on the stems, and the other bulb was single-flowered."]

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Fitch del et lith.

R.B & R.imp

Tab. 4499.

CEPHALOTAXUS Fortuni.

Mr. Fortune's Cephalotaxus.

Nat. Ord. Coniferæ.—Diœcia Polyandria.

Gen. Char. Flores dioici. *Amenta staminigera* axillaria, e gemmis propriis decussatim perulatis composita, *amentulis* pluribus, bracteis suffultis capitata. *Stamina* in quovis amentulo 4, 6, v. plura, axi alternatim inserta. *Filamenta* teretia, in connectivi processum brevem, squamæformem, margine inferiore *antheræ* loculos tres, pendulos, postice longitudinaliter dehiscentes geretem producta. *Amenta gemmulifera* ex axillis perularum hornotinarum gemmæ foliiferæ, in stipite nudo tetragono capitata. *Squamæ* gemmuliferæ plerumque octo, decussatæ, coriaceæ. *Gemmulæ* sub quavis squama 2, sessiles, singulæ *urceolo* præter apicem pervium adnato inclusæ, atropæ, micropyle supera, plurimæ abortivæ. *Fructus* in quovis capitulo 2 v. 3, urceolo adnato clauso, crasse carnoso, drupacei. *Semen* erectum, *integumento* exteriore osseo, lævi, interiore membranaceo, albumini æquabili, nec corrugato adhærente. *Embryo* antitropus, axilis, *cotyledonibus* duabus brevibus, *radicula* cylindrica, supera.—Arbores *Japonicæ*, ramis *secundariis distichis*. Gemmæ *perulatæ, perulis persistentibus, arcte decussatim imbricatis*. Folia *alterna, subdisticha, brevissime petiolata*, petiolis *decurrentibus linearia, mucronato-acuta, parum falcata, uninervia, subtus fasciis duabus stomatum latis multiseriatis percursa, per triennium virentia*. Amenta staminigera *ex axillis foliorum, stipitibus dense imbricatim bracteatis insidentia, gemmulifera ex axillis perularum interiorum in stipitibus nudis*. Fructus *secundo anno maturi*. *Endl.*

Cephalotaxus *Fortuni*; ramorum foliis exacte distichis sessilibus pectinatim dispositis lineari-acuminatis (3–4 uncialibus) rigidis subtus pallioribus, amentis staminigeris globosis brevi-pedunculatis, pedunculo bracteato, amentulis bractea late ovata concava erosa brevioribus.

Two of the most interesting plants, interesting especially to the lovers of arboriculture, among those detected by Mr. Fortune, during his present second visit to the north of China, are most assuredly the *Cupressus funebris*, Endl. (*C. pendula*, Staunton and Lambert, not of Thunberg), and the subject of the present plate. Messrs. Standish and Noble, of the Bagshot Nursery, are the fortunate possessors of young plants of both, and have already found them to be perfectly hardy in this climate. Both were found by Mr. Fortune two hundred miles north of Shang-see, from which latter place a Palm (*Chamærops excelsa*, Th.) sent to the Royal Gardens by Mr. Fortune, has braved, unharmed and unprotected by any sort of covering, the severe winter now passed (1849–50).

March 1st, 1850.

To judge of the graceful character of the Funereal Cypress, one has but to look at Tab. 41 of the Atlas of Plates accompanying Lord Macartney's Embassy to China, where we learn that in the north of China it is the tree used to adorn cemeteries ;—and, with regard to the present, which is of the Yew tribe of *Coniferæ*, the large size of the foliage, with its pectinated arrangement on the branches, must give it a pre-eminence over all other *Taxineæ*. Our flowering-plant (male flowers only) is drawn from a dried specimen sent home by Mr. Fortune, aided by a recent twig from Mr. Standish's nursery. These male flowers show clearly that it belongs to the genus *Cephalotaxus* of the lamented Endlicher. In some respects it approaches the Japanese *C. pedunculata* of Sieb. and Zuccarini, Fl. Jap. v. 2. p. 133 ; and we regret that our bookseller has not yet supplied us with the Fasciculus containing this species ; but if Endlicher is correct in referring *Taxus Harringtonia* of the Pinetum Woburnense, t. 68, to it, we may safely assert that our plant is not the same, but a perfectly undescribed species.

Descr. In the absence of a well-grown plant, we can say little or nothing of the tree, save that it is stated by Mr. Fortune to grow to a height of from forty to sixty feet. Its branches are probably spreading or drooping, obscurely streaked or furrowed, distichous, pale brown, slender. *Leaves* quite distichous, alternate or opposite, approximate, three to four inches long, linear, tapering a little at the base, much and gradually acuminate, one-nerved, dark full green above, paler beneath. From the axils of numerous leaves the male capitule of *flowers* appears, globose, about as large as a small pea on a short scaly stalk. This head consists of several imbricated, broadly ovate, almost round, concave, brown, erose *scales*, including a little amentum of stamens. A *filament* terminates in a small scale, bearing three pendulous *anther-cells*. *Female flower* and *fruit* at present unknown. *W. J. H.*

Cult. This is described as forming a handsome, spreading, evergreen tree. It comes from the north of China, and, as might be expected, is perfectly hardy. A plant in the Bagshot Nursery stood in the open air during the last winter, without being in the least injured. As it increases from cuttings as readily as the common Yew, and grows freely, we may expect to see this rare tree soon become common. We learn that Mr. Standish has already a considerable stock of young plants. *J. S.*

Fig. 1. Male capitulum. 2. Front view, and 3, back view of a stamen. 4. Scale of capitulum, with the little male amentum. 5. Capitulum removed from its scaly stalk :—*magnified*.

Ertén del et lith.

R.B. & Rimp

Tab. 4500.

CALLIANDRA BREVIPES.

Short-peduncled Calliandra.

Nat. Ord. Leguminosæ.—Polygamia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4238.)

Calliandra *brevipes*; glabriuscula, pinnis unijugis, foliolis (1–1½ lin.) multijugis oblongo-linearibus falcatis obtusiusculis glabris, petiolo brevi eglanduloso, pedunculis brevibus subfasciculatis, calyce parvo corollaque campanulata glabris, legumine coriaceo glabro. *Benth.*

Calliandra brevipes, *Benth. in Hook. Journ. of Bot. v.* 2. *p.* 141. *et Lond. Journ. of Bot. v.* 3. *p.* 404. *Walp. Repert. Bot. v.* 1. *p.* 927. *et v.* 5. *p.* 604.

An elegant and graceful shrub, a native of Brazil, whence seeds were received by Mr. Van Houtte, of Ghent, who sent plants to us, marked "Acacia, sp." It is a species of the same general character as the *C. Tweediei*, but considerably smaller, and the flowers are of a much paler red. Still it is ornamental when in bloom: the leaves are geminate or unijugate, and the leaflets very closely pinnate. It flowers in October, in the stove.

Descr. A much-branching *shrub*, about four to five feet high, the *bark* brown. *Leaves* alternate, geminate, each portion oblong, very closely pinnated with small linear-oblong, acute *leaflets*, and these generally drooping. *Heads* of *flowers* on short peduncles from the axils of the leaves, few in each head. *Calyx* minute, four-cleft, the lobes erect, appressed, ciliated. *Corolla* monopetalous, yellow, funnel-shaped or almost bell-shaped, four-cleft. *Stamens* six times as long as the corolla: *filaments* very slender, pale red or rose-colour: *anthers* minute. Our flowers do not produce pistils. *W. J. H.*

Cult. A pretty shrub which grows luxuriantly in the warm stove, if potted in light loam mixed with leaf-mould. Being a dry, fibrous-rooted plant, it requires to be freely supplied with water. With a little attention to tying up and pruning, it may be made a compact, handsome bush. When in flower it is

highly ornamental, its bright red tufts of flowers contrasting strongly against the delicate green foliage. It is readily increased by cuttings, which should be planted under a bell-glass and placed in bottom heat. *J. S.*

Fig. 1. Flower:—*magnified.*

F.v.H. del et lith

B. B & R. imp

Tab. 4501.

LARDIZABALA BITERNATA.

Biternate-leaved Lardizabala.

Nat. Ord. Lardizabaleæ.—Diœcia Hexandria.

Gen. Char. Masc. *Calyx* 6-phyllus, foliolis carnosis, exterioribus ovatis in æstivatione valvatis, interioribus angustioribus, spathulatis, acuminatis. *Petala* 6, biseriata, oblongo- v. lineari-lanceolata, acutiuscula, exteriora paullo latiora. *Stamina* 6. *Ovariorum* rudimenta 2–3 plus minusve attenuata. Fœm. *Calyc.* fol. ut in masc. *Petala* exteriora spathulata, inferne marginibus inflexis concava, crassiuscula. *Stamina* 6, filamentis brevibus, carnosis, antheris oblongis abortivis. *Ovaria* 3, cylindracea, stigmate sessili conico apiculata, multiovulata, ovulis globosis sessilibus parieti alveolato 8-seriatim immersis alternantibus. *Baccæ* polyspermæ, stigmate persistente apiculatæ. *Semina* campylitropa, compressa, subreniformia, testâ papyraceâ fuscâ, hili cicatriculâ basi et lateraliter notata; perispermum magnum carnoso-corneum albidum; embryo parvulus, subturbinatus, radicula cotyledonibus brevibus subæquali.—Frutices *Chilenses scandentes*, foliis *bi- v. triternatis*, foliolis *integris v. crenato-dentatis glaberrimis nitidis exstipulatis, nervatione foliorum* Berberidum. Inflorescentia *axillaris*, pedunculo *basi unâ* bractea *subreniformi coriacea suffulto, in masculis plurifloro, in fœm. unifloro.* Flores *purpurei? pedicellati*, pedicellis *bracteolulatis. Dcne.*

Lardizabala *biternata*; foliis 2–3- (sæpe simpliciter) ternatis, foliolis oblongis acutis basi inæqualibus hinc inde subdentatis, bracteis ad pedunculorum basin 2 magnis inæqualiter cordatis. *Dcne.*

Lardizabala biternata. *Ruiz et Pav. Syst. p.* 288; *Prodr. t.* 37. *Vent. in Voy. de la Peyr. v.* 4. *p.* 265. *t.* 6, 7, 8. *De Cand. Prodr. v.* 1. *p.* 95. *Dcne. Mem. Lardizab. in Arch. du Mus. v.* 1. *p.* 188. *Hook. et Arn. Contrib. to Fl. of S. Am. in Bot. Misc. v.* 2. *p.* 135. *Cl. Gay, Fl. Chil. v.* 1. *p.* 69.

A climbing, copiously-leaved, evergreen shrub, native of Chili, and growing as far south as Concepcion, whence it was naturally supposed to be hardy, and experience has proved the correctness of this opinion, for it has braved the winter of 1849–50 without any covering or protection, other than that afforded by a wall, both at Exeter and at Kew. George Thomas Davy, Esq., who has the credit of introducing this plant by sending it to Messrs. Veitch of Exeter, writes to them thus :—" When I first saw it in the Province of Concepcion, I was so much struck with the singularly dark colour of the flowers, and the beauty of the foliage,

that I gave instructions to have a root sent to me at Valparaiso, which was done; and it is the plant now in your possession. The fruit is sold in the Chilian markets." According to Decaisne, cordage is made of the tough fibre. The plant above alluded to was brought home from Valparaiso by Mr. Wm. Lobb, and was in full flower in Mr. Veitch's Nursery in December, 1849: and to Mr. Veitch we are indebted for the specimen figured in the annexed plate.

Descr. A climbing *shrub*, with terete, but often twisted *branches*, bearing *leaves*, which, especially in the flowering branches, are generally simply ternate, but sometimes bi- and triternate: the *leaflets* petioled, subcoriaceous, evergreen, ovate, here and there almost spinosely dentate, dark green above, paler and reticulated beneath. *Peduncles* solitary, from the axil of a leaf: at the base bearing two large unequally cordate spreading *bracteas*:—these we also find at the axil of the leaf, even where there is no flower-stalk. *Flowers* forming a dense drooping spike of numerous, rather large, deep purplish chocolate-coloured *flowers*. We have only seen *male flowers*, as here represented. The *calyx* is of six rhombeo-ovate, spreading, fleshy *sepals*, nearly equal in our specimens. *Corolla* of six spreading, lanceolate, or almost subulate, white, mealy, membranaceous *petals*. *Stamens* six, united into a column, and bearing six spreading, oblong, slightly incurved, apiculated, two-celled *anthers*, opening at the back. *W. J. H.*

Cult. This is a native of woods in the south of Chili, and proves perfectly hardy in this climate. A plant in this garden has withstood the cold of the last three winters without injury, and Mr. Veitch informs us that in his nursery there is a specimen twelve feet high, growing against a wall. It is a beautiful evergreen creeper, with dark green foliage, and well adapted for covering high walls. It is a rapid grower, and apparently not particular as to situation; but, from its habit, we infer that shady places suit it best. *J. S.*

Fig. 1. Corolla and stamens:—*magnified.*

Fitch del et lith.

L. B. & R. imp.

Tab. 4502.

LAGETTA LINTEARIA.

Jamaica Lace-Bark.

Nat. Ord. Thymeleæ.—Octandria Monogynia.

Gen. Char. Flores hermaphroditi, v. dioici. *Perigonium* coloratum, tubulosum, limbo quadrifido, fauce hispida. *Stamina* 8, perigonii tubo superne biseriatim inserta, inclusa. *Squamulæ* hypogynæ 8, lineares, distinctæ v. basi perparia connatæ. *Ovarium* uniloculare. *Ovulum* unicum, rarius 2 v. 3, pendula, anatropa. *Stylus* terminalis; *stigma* capitatum, emarginato-subbilobum. *Drupa* perigonio baccato villoso tunicata, mono-tripyrena, putamine crustaceo, fragili. *Semina* 1–3, inversa. *Albumen* nullum. *Embryo* orthotropus; *cotyledonibus* plano-convexis; *radicula* brevissima, supera.—Frutices *v.* arbores *dense ramosæ, in America tropica indigenæ;* libro *tenaci, deductili,* foliis *oppositis, v. alternis integerrimis,* floribus *terminalibus spicatis v. racemosis. Endl.*

Lagetta *lintearia*; arborea, foliis cordato-ovatis acutis penninerviis reticulatis nitidis, spicis pedunculatis terminalibus, floribus hermaphroditis, perianthiis urceolatis glabris, staminibus alternis brevioribus, ovariis longe sericeis.

Lagetta lintearia. *Lam. Encycl. Ill. tab.* 289. *Spreng. Syst. Veg. v.*2. *p.* 245. *Hook. in Kew Gard. Misc.* 1850, *ined. v.* 2. *t.* 4.

Daphne Lagetto. *Sw. Prodr. p.* 63. *Fl. Ind. Occ. v.* 1. *p.* 680.

Lagetto. *Lunan, Hort. Jam. v.* 1. *p.* 473.

Frutex foliis majoribus cordatisve. *Browne, Jam. p.* 371. *t.* 31. *f.* 5.

Laurifolia arborea. *Sloane, Jam. p.* 137; *Hist. v.* 2. *p.* 22. *pl.* 168. *f.* 1–3. *pl.* 169. *f.* 1.

Every one has heard of the "Jamaica Lace-Bark," and has inspected the curious and beautiful substance: few have seen specimens of the leaves and flowers, still fewer have seen the living plant, nor was it, we believe, permanently introduced in the latter state to Europe till the year 1844. The year before that, our intelligent Collector for the Kew Gardens, Mr. Purdie, was instructed to take the island of Jamaica on his way to New Granada, and visit the quarters of this plant (the parishes of Vere, Clarendon, and Elizabeth), to which it seems to be confined. Mr. Purdie spent some days among woods of this tree, but could find neither flower nor fruit in a state fit to send home. But our wishes being known to Mr. Wilson, the inde-

fatigable Curator of the Botanic Gardens at Bath (Jamaica), he kindly procured seeds and young plants a few months later, and has been the means of introducing this rarity to our stoves. Our plants are now eight to ten feet high, and one of them produced, for the first time, flowers and fruit copiously in the summer and autumn of 1849.

It is well known that the liber or inner bark of this tree consists of layers of reticulated fibre, exactly resembling well-prepared lace; and its nature is best exhibited by taking a truncheon from a branch, tearing down the bark, and separating it by the hand into as many layers as that portion of the tree is years old. "The ladies of Jamaica," Dr. Lunan observes, "are extremely dexterous in making caps, ruffles, and complete suits of lace with it. In order to bleach it, after being drawn out as much as it will bear, they expose it (stretched) to the sunshine, and sprinkle it frequently with water. It bears washing extremely well with common soap, or the "curatoe" soap, and acquires a degree of whiteness equal to the best artificial lace. The wild negroes have made apparel with it of a very durable nature; but the common use to which it is applied is rope-making. The Spaniards are said to have worked it into cables, and the Indians employ it in a variety of different fabrics."—Sloane relates that Charles II. had a cravat made of the bark of this tree, which was presented to him by Sir Thomas Lynch. In the days of slavery the negro-whips were commonly made of the branches of this tree, thus:—of a portion of the branch the wood was removed, and the bark twisted into the lash. The lower part of the branch formed the handle, and if it was desired to ornament the latter, it was done by unravelling the bark at the lower end, which thus formed a kind of tassel consisting of spreading layers of lace. On the plate above quoted in the Kew Garden Miscellany, a specimen of the lace itself, a whip, &c., are represented, from the objects in the Museum of Kew.

Descr. A *tree* from twenty to thirty feet high, with branches too straggling and foliage (though of a good size and glossy) too sparse to form a striking object, though really handsome when in flower. *Leaves* alternate, on rather short *petioles*, which are jointed on the branch; hence the leaves readily fall off in drying; they are cordato-ovate, acute, glossy, reticulated, palish-green. *Flowers* pure white, or, in bud, greenish-white, arranged in spikes which are solitary and terminal on a main branch, or on short side-branches. *Perianth* urceolate, fleshy, four-toothed. *Stamens* included: longer *filaments* arising from a scale: *anthers* subglobose. *Pistil* included. *Ovary* ovate, densely silky. *Style* shorter than the ovary. *Stigma* obtuse. The *fruit* is a smooth, oval drupe. *W. J. H.*

Cult. In the second edition of the 'Hortus Kewensis' it is stated that the Lace-Bark tree was introduced to this garden by Rear-Admiral William Bligh in 1793; but it appears to have been soon lost, and it had been a desideratum in the garden for many years. Our present plants were received in 1844, and were then only four inches high. For our guidance in their cultivation, Mr. Wilson informed us that "it is invariably found growing in very dry situations on marly limestone hills, where there is not a particle of earth to be seen. The young plants grow in the crevices, or *honeycomb*, as it is called, and in order to obtain them with roots, a hammer or large stone is required to break away the porous limestone." He further adds, that "the soil for growing it in should be composed of one-third marl or lime-rubbish; for I am persuaded that pure loam will kill them." We are always most desirous to pay attention to information as regards the native habitats of plants; but in cases like the present we have found that, when too strictly adhered to, successful cultivation does not always follow. In our experience, we have never found any plant thrive by retaining it in its native soil, or in soil too closely resembling it. If we could also imitate all the various influences of climate that modify and control the growth of plants in their native localities, it might then be proper for us to cultivate the Lace-Bark tree in marly soil, like limestone; but our plants afford evidence that such soil is not required when they are grown in an artificially heated atmosphere. We have used good yellow loam, mixed with a little leaf-mould and sand. In this they have attained the height of eight feet, and continue in a perfectly healthy state. In their native place the leaves are deciduous, falling off in the dry season. But the health of a general collection of tropical plants, grown in a hothouse, will not allow us to put them under the influence of their *natural dry season*: we therefore find that some individuals change their habit, and become evergreens. This has been the case with the *Lagetta* plants; and it is probably to an accidental circumstance that we owe the present production of flowers. One of the plants appeared to have received some check, which caused it to shed its leaves: the consequence was, that just before the unfolding of the young foliage, it produced its flowers. Like many of the *Thymelaceæ*, the Lace-Bark tree is difficult to propagate. We have never succeeded by planting cuttings, nor by grafting it on species of allied genera; but we now have hopes of propagating it by layering.

J. S.

Fig. 1. Flower. 2. The same laid open. 3. Section of the ovary:—*magnified.* 4. Pistil:—*natural size.*

Fitch del et lith.

R.B. & R. imp.

Tab. 4503.

ÆSCHYNANTHUS Javanicus.

Java Æschynanthus.

Nat. Ord. Cyrtandraceæ.—Didynamia Angiospermia.

Gen. Char. (*Vide supra*, Tab. 4236.)

Æschynanthus *Javanicus*; scandens, foliis (parvis) ovatis coriaceo-carnosis immerse venosis obscure angulato-dentatis, corymbis terminalibus bracteatis, calyce cylindraceo pedicellisque pubescentibus segmentis ovatis patentibus, corolla pubescente calyce triplo longiore, limbi lobis patentibus, staminibus exsertis.

Æschynanthus Javanicus. *Hort. Rollinson.*

Messrs. Rollinson, of the Tooting Nursery, obligingly sent us the accompanying very handsome *Æschynanthus*, under the name of *Æ. Javanicus*, received by them, we presume, from their Collector in Java. At first sight it bore so much resemblance to the *Æ. pulcher*, De Cand., figured at our Tab. 4264, that I was disposed to consider it a variety; but as that happened to be in flower at the same time in the stove of the Royal Gardens, the differences were found to be too striking to allow it to be other than a good species. The plant is more compact, the leaves smaller, the flowers all over downy, as well as the pedicels, the calyx truly cylindrical (not swollen below), the limb spreading, the corolla more slender and graceful, the stamens exserted.

Descr. A scandent, yet compact-growing, soft-stemmed *shrub*, much branched and rooting from beneath the petioles. *Stems* terete; the younger ones green and succulent. *Leaves* opposite, ovate or oval, sometimes approaching to oblong, between coriaceous and fleshy, obscurely angulato-dentate, penninerved, the nerves sunk in the substance of the leaf. *Corymbs* terminal, of many, large, handsome, richly-coloured *flowers*. *Pedicels* downy, bracteated, *bracteas* ovate or cordate, unequal. *Calyx* ample, greatly wider than the tube of the corolla it includes, downy,

dark-green, red-brown above; the *tube* cylindrical, faintly striated, the five lobes of the *limb* spreading horizontally. *Corolla* bright red, about thrice the length of the limb, the *tube* slender, infundibuliform, downy, laterally compressed, with a prominence under the throat: *mouth* oblique, *limb* of four nearly equal, spreading, large, ovate *lobes*, the upper one notched, the rest entire and streaked and blotched with yellow. *Stamens* all exserted, especially the upper ones. *Ovary* very long, slender, its pedunculiform base downy and inserted into a five-lobed cup-shaped *annulus*. *Style* continuous from the ovary: *stigma* oblique, a depressed head. *W. J. H.*

Cult. Belonging to a genus of East Indian plants characterized by a trailing, or somewhat scandent, epiphytal habit, and analogous to *Nematanthus* and *Alloplectus* of tropical America, this plant requires the same kind of treatment, and they may be properly associated with tropical Orchideæ. It is a trailing species, of neat habit, and may either be grown in a pot or basket suspended from the roof of the house, or placed on an elevated position formed of any convenient material, such as rude bricks or garden pottery, covered with sods of turfy peat. By introducing a few small-growing ferns, or *Lycopodia*, the whole will soon assume a natural appearance. During summer the plant requires to be freely supplied with water; and if placed in a position exposed to the midday sun, it should be shaded. In the winter months water must be sparingly given. *J. S.*

Fig. 1. Corolla:—*natural size.* 2. Pistil:—*magnified.*

2.

Fitch del et lith

R.B. & R.

Tab. 4504.

GESNERIA Seemanni.

Mr. Seemann's Gesneria.

Nat. Ord. Gesneriaceæ.—Didynamia Gymnospermia.

Gen. Char. (*Vide supra*, Tab. 4217.)

Gesneria *Seemanni*; elata hirsuta herbacea, foliis oppositis ternatisve sublonge petiolatis late ovatis obovatisve acutis grosse serratis, superioribus multo minoribus magis acuminatis omnibus basi obtusis, pedunculis unifloris fasciculatis ad axillas foliorum supremorum verticillatis petiolo longioribus in racemum longum terminalem dispositis, corollæ villosissimæ lateritiæ tubo brevi-cylindraceo, limbi glanduloso-hirsuti æqualis patentissimi lobis patentibus subrotundatis maculatis, staminibus styloque inclusis, ovario hirsutissimo, glandulis hypogynis 4–5 latis, unico bifido.

A very handsome copious-flowering and bright-coloured species of *Gesneria*, quite new, as far as I can find: but approaching nearest to *G. longifolia*, Lind. Bot. Reg. 1842, tab. 40, but differing much in the form of the leaves, and in the limb of the corolla. It was discovered by Mr. Seemann, at Panamà, and I have thought it deserving of bearing the name of its discoverer, who sent roots to the Royal Gardens of Kew, in 1848. The flowering plants were produced in October 1849.

Descr. *Roots* tuberous, I believe, but these I had not the opportunity of inspecting. *Stem* two feet or more high, simple, rather stout below, nearly terete, villous with spreading hairs, as is almost every part of the plant. *Leaves* opposite and ternate, the lower ones large, broadly ovate or subobovate, on rather long *petioles*, coarsely serrate, acute, rather than acuminate; upper ones gradually smaller and more tapering to a point, all obtuse at the base. From the whorls of the upper floral leaves, the hairy *peduncles* appear fasciculato-verticillate, longer than the petioles, and the uppermost ones longer even than the leaves, single-flowered. *Calyx* shallow, cup-shaped, with five nearly regular, acute, spreading *lobes*. *Corolla* very villous, bright brick-red, a little inclining to orange. *Tube*

nearly cylindrical, short, tapering, orange at the base: the *limb* of five nearly equal, rounded *segments*, spotted with deeper red, and clothed with glandular hairs. *Stamens* and *style* included. *Ovary* roundish-ovate, very villous, having at the base four conspicuous, hypogynous, broad *glands*, of which one is bifid. *W. J. H.*

Cult. About seventy species of this genus are now described. They are all natives of tropical America and the adjacent islands, and, being highly ornamental plants, a considerable number of them have been introduced. They may be characterized as being (chiefly) herbaceous plants, producing their showy flowers on a soft, leafy stem, that rises from a rhizome, which is either in the form of a thick, fleshy, round tuber, or it consists of a number of fleshy scales, compactly seated on an elongating axis, and, therefore, analogous to an under-ground surculose stem. The rhizome of the species now figured belongs to the latter form, resembling that of *Gloxinia* and *Achimenes*, and requiring the same kind of treatment. It will thrive in a mixture of light loam and leaf-mould; and, in order to start the roots, they should be placed in bottom-heat in a warm stove, taking care not to give much water till after they have made some progress in growth. If during the summer they happen to be placed in a position fully exposed to the south, they will require to be shaded during the middle of the day. *J. S.*

Fig. 1. Pistil of *G. longiflora* (to show the difference in the hypogynous glands from *G. Seemanni*). 2. Ovary and hypogynous glands of *G. Seemanni*:—*magnified.*

Fitch del et lith.

R.B. & R. imp.

Tab. 4505.

TUPA crassicaulis.

Thick-stemmed Tupa.

Nat. Ord. Lobeliacæ.—Pentandria Monogynia.

Gen. Char. Cal. 5-lobus, *tubo* hemisphærico vel globoso. *Corolla* persistens, 1-labiata, dorso longitudinaliter fissa, deflexa, plana vel concava, e *petalis* 5, inæqualiter connatis, apice diu cohærentibus constans, *lobis* 3, centralibus seu inferioribus magis connatis, lateralibus plus minusve divergentibus nunquam erectis, omnibus quandoquidem sub finem florationis segregatis. *Stamina* 5, connata; *antheris* omnibus vel 2 inferioribus apice barbatis, cæterum glabris aut pilosis. *Capsula* infera, rarius superne libera, bivalvis.—Herbæ *elatæ v. suffrutices*, caule *simplici*, foliis *alternis sæpe lanceolatis medio approximatis, racemo folioso elongato multifloro.* Flores *sæpius purpurei, raro coccinei, flavi, aut virescentes.* Succus lacteus *acris in tota planta. De Cand.*

Tupa *crassicaulis*; caule suffruticoso erecto simplici crasso foliis delapsis cicatricato cano-pubescente, foliis densis in apicibus caulis patentibus reflexis lanceolatis seu lato-lanceolatis acutis basi in petiolum brevem attenuatis serratis reticulatim venosis supra viridibus molliter pubescentibus subtus cano-tomentosis, pedunculis axillaribus solitariis unifloris folio multoties brevioribus, calycis tubo hemisphærico, limbi laciniis patentibus acuminatis, corollæ flavo-aurantiacæ (demum coccineæ) tubo lateraliter compresso, limbi bilabiati labio superiore bifido laciniis erectis, inferiore reflexo trifido.

Syphocampylos canus; *Hort. Belg.* (*not Pohl.*)

We have before had occasion (as have other authors) to complain of the careless manner in which plants are named that are sent from the continental nurserymen, and more so than of any others in the case of some of our Belgian correspondents. The Royal Gardens received the present plant from Mr. Makoy of Liége, without any mention of its native country, under the name of *Syphocampylos canus*; a species of Brazil, and which in no particular corresponds with the present plant. We doubt if it can be referred to any described species of the genus. It appears, however, to agree better with *Tupa* than with *Syphocampylos*, if the genera be really well founded. It flowers in the greenhouse in the summer and autumn.

Descr. Our plants are nearly three feet high, and exhibit a

stout but woolly or cobwebby *stem*, leafy at the top, something after the manner of the *Daphne Laureola*. *Leaves* soft, four to six inches long, patent or deflexed, lanceolate or broad-lanceolate, acute, serrated, tapering at the base into a short footstalk, dark green and slightly downy above, tomentose and hoary beneath. *Peduncles* axillary, solitary, one to two inches long, woolly. *Calyx* woolly: *tube* semiglobose, five-angled; the *limb* of five acuminated spreading *segments*. *Corolla* yellowish or greenish-red, at length quite red: *tube* two inches long, nearly straight, laterally compressed; *limb* two-lipped, *lips* long, *superior one* inclined upwards, bifid, segments linear acuminate; *lower lip* deflexed, trifid, segment linear-lanceolate. *Anthers* shorter than the upper lip, all hairy at the apex. *Stigma* two-lipped. *W. J. H.*

Cult. This is a soft-wooded, suffruticose shrub, of an erect, stiff habit, becoming naked below. It requires to be placed during winter in a temperature that, on an average, need not exceed 55°; and, on account of its soft, tomentose nature, the hygrometric state of the atmosphere should be kept rather dry. In spring it should be repotted, first divesting the ball of a portion of its old soil, and then planting in a fresh mixture of light loam and sandy peat. Care must be taken that the pot be well drained, and that at no time the mould be allowed to remain long saturated; for in plants of this nature, if kept too wet, the woody parts of the roots near the surface are liable to be destroyed, while the appearance of the plant, above ground, continues for a time in a healthy state. During the summer it may be placed in the greenhouse. We have not yet had sufficient experience respecting it, yet we believe that it would grow vigorously if planted about May in a warm border; but as it is a late flowering plant it would be necessary to take it up and repot it, and place it under protection in time to save it from being injured by the autumn frosts. It is readily increased by cuttings, put under a bell-glass and treated in the usual way. *J.S.*

Fitch del et lith.

R.B. & R. imp

Tab. 4506.

FUCHSIA BACILLARIS.

Red-branched Fuchsia.

Nat. Ord. Onagrarieæ.—Octandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4082.)

Fuchsia *bacillaris*; ramulis glabris, foliis ovatis v. ovato-lanceolatis denticulatis deciduis glabris, pedunculis axillaribus subtrifloris folio longioribus, calycis tubo cylindraceo, laciniis ovatis acuminatis petala obcordata patentia apiculata subæquantibus, staminibus subinclusis, stylo exserto, stigmate globoso 4-dentato, fructu subgloboso.

Fuchsia bacillaris. *Lindl. Bot. Reg. t.* 1480.

A native of Mexico, and, as may be expected, a greenhouse plant. It has been for some time cultivated at Kew. Our specimen here figured was communicated by Mr. Veitch from his rich garden at Exeter, and is really a pretty thing when well cultivated. It flowers during the summer months.

Descr. A low deciduous *shrub*: the *branches* with reddish *bark*; younger twigs green. *Leaves* opposite or ternate, lanceolate or ovato-lanceolate, entire or denticulato-serrate, small, nearly sessile, penninerved. *Peduncles* axillary, from one- to three-flowered. *Flowers* on slender, drooping *pedicels*, springing from the copious upper and younger branchlets, and thus forming a rather large, leafy *thyrsus* or compact *panicle*. *Ovary* glabrous (as is every part of the plant), red, globose. *Calyx* also deep red: its tube cylindrical, contracted where it unites with the ovary, and spreading upwards into four ovato-acuminate *segments*. *Petals* deep rose, subobcordate, spreading, nerved, bearing a blunt mucro at the retuse apex. *Stamens* eight; four nearly equal with the throat of the flower, four others more exserted. *Style* much exserted, longer than the longest stamens. *Stigma* globose, four-cleft. *W. J. H.*

Cult. This very distinct species of *Fuchsia* is, like the rest of the genus, of very easy cultivation. It requires to be protected during winter by keeping it in a cool pit or house. Established

plants may be safely placed under the stages of the greenhouse, or in other such place, provided the plants are kept dry, and the place sufficiently cool to prevent them from beginning to grow before spring. They must then be taken out of the pots, the roots divested of part of the old soil, repotted in a mixture of light loam and leaf-mould, and then be placed so as to receive the necessary stimulants for bringing them into a flowering state. As they advance in growth and begin to show flower, they may be removed into the greenhouse. In summer the plants thrive if set in an open border, along with other Fuchsias and such like summer plants. They are readily propagated by cuttings. *J. S.*

Fig. 1. Flower :—*magnified.*

Tab. 4507.

ANIGOZANTHOS TYRIANTHINA.

Tyrian-purple-flowered Anigozanthos.

Nat. Ord. Hæmodoraceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4180.)

Anigozanthos *tyrianthina*; caule elato tereti dichotome paniculato superne purpureo cano-tomentoso, foliis plerisque radicalibus lineari-acuminatis rigidis striatis rectis glaberrimis marginibus serrulato-scaberrimis, spicis paniculatis secundifloris bracteolatis, pedunculis pedicellis perianthiisque externe tomento denso tyrianthino tectis, perianthii (intus glabriusculi straminei) laciniis lanceolato-acuminatis tubo curvato brevioribus, staminum filamentis laciniis brevioribus, antheris exappendiculatis.

One of the many fine things discovered by Mr. Drummond during his excursions in the interior to the south-west of the Swan-river settlement. He could not fail to be struck with the magnificence of this plant, three or four and more feet high, growing in masses, and bearing paniculated branches and copious flowers clothed with dense tomentum of the richest Tyrian purple. Seeds have been sent home, but they have not yet germinated. Happily, however, as stated on a former occasion, the well-dried specimens of the species of this genus retain their form and colour almost equally with the living plant, and we are hence able to present an accurate figure to our readers. Its nearest affinity is perhaps with the *A. fuliginosa*, Bot. Mag. t. 4291; but the flowers are very different in shape as well as in colour.

Descr. From a short, thick, woody *caudex* descend numerous woolly fibres, which penetrate apparently in a very sandy soil. *Stem*, or, as some might call it, *leafy scape*, erect, three to five feet high, terete below, simple and hoary with downy tomentum, above dichotomously branched or paniculated, and clothed with dense purple wool. *Leaves*, those springing from the root, a foot long, linear, slightly channelled, rigid, striated, equitant

at the base, erect, acuminated, pale green, the edges very scabrous with minute teeth or serratures. *Leaves*, of the stem, generally at the setting on of a branch, shorter and smaller, gradually passing upwards into *bracteas*. *Flowers* copious upon the terminal branches, pedicellate, arranged in secund, close *spikes*, and externally, as well as the pedicels and peduncles, clothed with a dense wool of the richest tyrianthine purple. *Tube* of the *perianth* rather long, curved, swollen at the base where the ovary is: the *segments* much shorter than the tube, but longer than the stamens. Within, the flower is nearly glabrous and straw-coloured. *Anthers* muticous. *W. J. H.*

Cult. This belongs to a genus of Australian plants, similar in habit to the common Flower-de-Luce. It has narrow, sword-shaped leaves, that rise from a thick fleshy rhizome, which increases by lateral offsets, and in time becomes a crowded, cæspitose mass; the flowers are produced in a kind of corymb, on a naked, generally erect flower-stalk, rising above the leaves, which, on account of their permanent nature, may be termed evergreen. Several species of the genus have been long known to us as garden plants. They are of a robust nature, requiring protection during winter, but will flower in the open air during summer, at which time they require a liberal supply of water. On account of their dense habit of growth it is advisable to divide the mass, and select the young and most vigorous plants for repotting, which should be done in autumn or early in spring. The soil in which they are planted is not important, any kind of light loam suiting them. As the species now figured is not, to our knowledge, yet introduced into this country, we can only infer that a similar treatment will be suitable. *J. S.*

Fitch, del et lith.

R.B. & R. imp

Tab. 4508.

PACHIRA alba.

White-flowered Pachira.

Nat. Ord. Bombaceæ.—Monadelphia Polyandria.

Gen. Char. Pachira, *Aubl.* (Carolinea, *Linn. fil.*) *Calyx* nudus, subtruncatus, persistens. *Petala* 5, oblonga, longissima. *Stamina* basi monadelpha, superne in adelphias plures dodecandras fasciculata. *Stylus* longissimus. *Stigmata* 5. *Capsula* lignosa, multivalvis, 1-locularis, polysperma. *Semina* nec gossypio nec farina induta, arillo carnoso forsan cincta.—Folia *palmatim composita*. *De Cand.* (*under* Carolinea).

Pachira *alba*; arborea inermis, foliis deciduis septenatis, foliolis petiolulatis elliptico-lanceolatis acutis glabris, corolla extus pilis fasciculatis tomentosa, tubo staminifero apice lobato, filamentis dichotomis.

Pachira alba. *Walp. Repert. Bot. v.* 1. *p.* 329.

Carolinea alba. *Lodd. Bot. Cab. t.* 752. *Hook. Exot. Flora, cum Ic.*

This constitutes a small tree, branching chiefly at the top, a native of Brazil, flowering in our stove in the winter months, and unfortunately at a season when no leaves appear. The trunk is unarmed, clothed with ashy-green bark. The flowers are large, and exhale a slight fragrance. We retain the name *Pachira* as the oldest, and unobjectionable. The *Pachira tomentosa*, Mart. Nov. Gen. et Sp. Bras. v. 1. p. 84. t. 56, comes very near this, especially in the flowers; but the leaflets of the leaves are much broader and very tomentose.

Descr. *Stem* erect, with us twenty-two or twenty-three feet high, branched and leafy at the top. *Leaves* on long footstalks, septenate, *leaves* petiolulate, elliptical-lanceolate, glabrous. *Flowers* solitary from the naked branches. *Peduncles* stout, bracteated when young. *Calyx* nearly subhemispherical-globose, dark green, the limb a little contracted, and entire. *Petals* five, large, lingulate, obtuse, leathery, cream-white within and glabrous; outside fuscous and clothed with a fasciculated, dense, compact down, soon reflexed. *Stamens* monadelphous. *Filaments* very long, spreading, forked, and all springing from a

cylindrical tube, which includes the ovary and part of the style. *Anthers* kidney-shaped, one-celled, opening vertically. *Ovary* ovate, five-ribbed. *Style* longer than the dense mass of stamens, rather short, red upwards. *Stigma* obsoletely five-lobed. *W. J. H.*

Cult. This is one of the magnificent Silk-cotton trees of Brazil, but without the brilliant-coloured flowers of some allied species. The plant from which the drawing was made is a very old inhabitant of this garden, having for many years shown itself conspicuously in the great old hothouse, where, on account of its strong tendency to grow upwards, it was necessary to cut it back every year to prevent its branches growing through the glazed roof. It is now removed to the palm-house, where it will have ample room for some years to come. Being a rude and fast grower, it requires no particular treatment. It is a deciduous tree, losing its leaves during the winter, and producing its flowers in the spring just before the expansion of the new leaves. It can be increased by cuttings of ripened wood, placed under a bell-glass and plunged in bottom-heat, care being taken that they are not kept too wet, for, being thick and somewhat soft-wooded, they are liable to rot. *J. S.*

Fig. 1. Section of a portion of a flower, showing the staminal tube, &c. :— *natural size*.

Fitch del. et lith.

R. B. & R. imp.

Tab. 4509.

RHODOLEIA Championi.

Capt. Champion's Rhodoleia.

Nat. Ord. Hamamelideæ.—Decandria Digynia.

Gen. Char. Rhodoleia, *Champion, MS.* *Calyx* minutus, truncatus, cum basi ovarii adnatus, demum accrescens, persistens. *Corolla* nulla. *Stamina* 10, libera, calyci inserta ? *Ovarium* basi pluriglandulosum, biloculare, pluriovulatum. *Styli* duo, longissimi, decidui. *Stigma* obtusum. *Capsula* bilocularis, loculis polyspermis. *Semina* oblique subtriangularia, compressa.—Arbor *humilis Chinensis.* Folia *alterna, sempervirentia, elliptico-ovata, obtusa, petiolata.* Flores *capitati, in singulo capitulo* 5, *basi coadunati, involucro duplici florem perpulchrum emulante circumdati :* ext. *e foliolis imbricatis sericeis fuscis :* int. *e foliolis numerosis coloratis* (*roseis*). Fructus *compositus e capsulis* 5, *radiatim dispositi.*

Rhodoleia *Championi.*
Rhodoleia. *Champ. MS. with a drawing.*

China has already afforded many beautiful plants to the gardens of the curious in Europe, and our present relationship with the Celestial Empire will doubtless be the means of the introduction of many more. We have lately been gratified by receiving from Hong-Kong, both from Captain Champion and Mr. Braine, seeds, and, from the former gentleman, a dried flower and leaf, together with a drawing by a Chinese artist, of a perfectly new and most beautiful plant, which, after as accurate an inspection as our materials will allow, we do not hesitate to refer to *Hamamelideæ*. All we know (and we desire to apologize for the deficiencies) we lay before the public as speedily as possible. Better specimens will doubtless, by and by, reach us ; and, though our seeds have not yet germinated, we do not yet despair of them. Captain Champion, writing from Hong-Kong, December 1849, says, "This is admitted by all here to be the handsomest of Hong-Kong flowering trees, and new to Europeans till I discovered it in February last. It is a small tree, but would probably, like the *Camellia*, blossom as a shrub profusely, each branch bearing six to eight flowers. *Flowers* (capitula) at its extremity ; and these two inches and a half in

diameter. *Sepals* (leaflets of outer involucre) about twelve. *Petals* (leaflets of inner involucre) rose-coloured, about eighteen. *Stamens* thirty to forty (probably fifty in each *head*, Ed.). *Fruit* of five radiating *capsules*; each about the size of a small hazel-nut, birostrate, two-celled, many-seeded: in the young state crowned by two long filiform *styles*. *Leaves* long, petiolated, bright green, glaucous beneath. *Flowers* in February, and the *fruit* only attains its full size and ripens in September, splitting when ripe from the apex downwards.—Conditions of growth exactly those of *Camellia Japonica*, I should say; and the tree of about the same degree of hardihood: the young trees Mr. Braine has transported thrive very well. There was a tree of *Camellia Japonica* in flower in the same wood, also *C. oleifera*, and another probably new species, together with Dr. Siebold's *Benthamia*, a new and very fine *Pergularia*, an *Ornus*, six or seven *Oaks*, a *Chestnut*, a *Liquidambar*, and other rare trees."

The opinion of my valued friend Mr. Bentham on my imperfect materials, is worth recording. "Your plant," he says, "is allied to *Altingia* (or the Javanese *Liquidambar*), and *Sedgwickia*. *Sedgwickia* is described as exinvolucrate, and in my specimens there is no appearance of there having been any involucre; but the young shoots issue from buds covered with imbricate scales, of which the inner ones are larger and more coloured than the outer ones; and one of my heads of fruit proceeds from one of those sets of scales, without any leaves intervening, so that the scales form almost an involucre. The true American *Liquidambar* is also without involucre; but the Javanese one is described as having a deciduous one, and probably *Altingia*, *Liquidambar*, and *Sedgwickia* will be found to be three distinct genera—all apetalous and with an almost obsolete calyx, all pleiandrous, bicarpellary, distylous, pluriovulate:—and in all these characters, as well as in the capitate inflorescence and concrete capsules opening at the apex, your new genus agrees with them. But *Altingia* and *Liquidambar* are unisexual, and *Sedgwickia*, which, like yours, is hermaphrodite, differs from yours in the want of involucre, or rather in the scales of the gemmæ being very deciduous, enclosing leaves as well as flower-heads, and not being petaloid, whilst in yours each gemma encloses only a single flower-head, and has the inner scales so remarkably developed and petaloid; and, also, your styles are long and straight, whilst those of *Sedgwickia* are short and recurved as in *Liquidambar*." *W. J. H.*

Cult. Our only knowledge of this pretty plant is derived from a small specimen sent from Hong-Kong, along with its seeds. We received them last December; and, although we have been most anxious to obtain this interesting plant in a

living state, and have treated the seeds in various ways, we have not yet had the satisfaction of seeing them vegetate, and fear that this is another instance of the uncertainty of obtaining seeds from distant countries in a perfect state; for even when sent with all necessary care, aided by rapid conveyance, numbers of seeds lose their vitality before we receive them,—thus causing much disappointment. For safety, they are often packed in a close tin case, or wrapped in oil-cloth or other close material; but it has been invariably found that when they have been so sent there is less probability of success in raising them. The mischief takes place generally on board ship in coming through the tropics, for, on account of the moisture the seeds contain, the heat produces a degree of fermentation, which destroys their vitality. This is more particularly the case in large seeds, and in such as contain much albumen, especially if they are of an oily nature. In preparing seeds for transmission through the tropics, our experience leads us to recommend that they should be wrapped in a paper parcel, and placed in the cabin or other cool part of the ship, but not in a place that is too airy and dry. In recommending this, we must be understood to refer more especially to small seeds; for, with all due care, we do not anticipate much success with acorns and such other large seeds. *J.S.*

[In the figures we have to observe the arrangement of the capitula or heads of flowers upon the branches, and the section of the ovary and insertion of the seeds are not wholly to be depended upon.]

Fig. 1. Single pistil. 2. The pistils of the five flowers of the capitulum. 3. Head of Capsules, with their persistent and enlarged calyces :—*natural size*; and accompanied by a seed *natural size*, and one *magnified*. 4. Transverse section of ovary. 5. The ovaries of the five flowers *in situ* (stamens removed). 6. Stamen :—*all but fig.* 3 *and the small seed magnified.*

Fitch del et lith.

R. B. & F. imp.

Tab. 4510.

MANGIFERA Indica.

Mango Tree.

Nat. Ord. Terebinthaceæ.—Pentandria Monogynia.

Gen. Char. Flores polygami. *Calyx* 5-partitus, deciduus. *Petala* 5. *Stamina* 5, quorum 4 sæpius castrata. *Stylus* 1. *Drupa* baccata, subcompressa, nucleo fibris lignosis crinito evalvi. *Semen* ovato-oblongum. *Embryo* erectus, cotyledonibus carnosis, radicula brevi.—Arbores *Indicæ*, foliis *integris penninerviis*, paniculis *terminalibus*. Fructus *edulis*. *De Cand.*

Mangifera *Indica*; foliis oblongo-lanceolatis petiolatis, petalis apice patulis, stamine unico fertili, nucleo fibris lignosis crinito evalvi.

Mangifera Indica. *Linn. Spec. Pl. p.* 290. *Lam. Ill. t.* 138. *Jacq. Ic. Rar. v.* 2. *t.* 337. *De Cand. Prodr. v.* 2. *p.* 63. *Roxb. Fl. Ind. v.* 1. *p.* 640. *ed. Wall. v.* 2. *p.* 435. *M'Fadyen, Fl. of Jamaica, p.* 221.

Mao, du. Mau vel Mangas. *Rheed. Malab. v.* 4. *t.* 1, 2.

Manga domestica. *Rumph. Amb. v.* 1. *p.* 93. *t.* 25.

Long and well as this has been known as the most valuable of tropical fruits, I can quote no good and faithful representation, save in the costly work of Jacquin above cited. It is the more gratifying, therefore, that our plants in the stoves of the Royal Gardens are bearing annually flowers most abundantly, and fruits, though comparatively sparingly. Fortunately, our plants are of the choicest kind of the East Indies, the *Muldah*, sent by Dr. Wallich to Kew, and the fruit has a remarkably fine flavour. Dr. Roxburgh, who had occasion to observe that "of this tree, though one of the most common in India, he had not met with any description which deserved the name," has given the best and fullest account of it, in the *Flora Indica* above quoted. Although cultivated generally throughout the warm parts of Asia, it does not appear to be certainly known in a truly wild state. Dr. Wallich met with a tree (not in flower) which he considered to be this, "seemingly wild, near Hetouma, on the banks of the Karra or Karrara rivulet."

The ripe fruits, says Roxburgh, "are universally eaten, and esteemed the best fruit in India: jellies, preserves, tarts, pickles, &c., are made of them before they are ripe. The kernels are large, and seem to contain much nourishment, but they are made no use of except during times of scarcity and famine;

when they are boiled in the steam of water, and used as an article of diet. The wood is of a dull grey colour, porous, yet pretty durable if kept dry, but it soon decays if exposed to wet. In very large old trees it acquires a light chocolate-colour towards the centre of the trunk and larger branches, and becomes hard, close-grained, and much more durable. From wounds made in the bark there issues a soft, reddish-brown gum-resin, which age hardens, and renders exceedingly like Bdellium. Laid on the point of a knife and held in the flame of a candle, it readily melts, catches flame, and burns with a crackling noise, emitting a smell resembling that of Cashew-nuts when roasting. Its taste is slightly bitter, with some degree of pungency. It dissolves almost entirely in spirits, and in a great measure in water: both solutions are milky, with a small tinge of brown."

The next best account of the Mango we find given by our friend Dr. M'Fadyen, in his Flora of Jamaica; for, as may be supposed, so highly prized a fruit has been introduced to almost all tropical European colonies; though to the West Indies (Jamaica) not till the year 1782, and then by accident, among a number of valuable plants taken in a French vessel from the East Indies on its way to St. Domingo. They were first cultivated in the garden of H. East, Esq., which afterwards became the Botanic Garden, St. Andrews, and there being a great number of plants producing several varieties of the fruit, they were regularly numbered. Hence, two of the most esteemed sorts have since come to be generally known by the name of No. 11 and No. 32, No. 11 being a flat-sided green fruit, of a delicious aroma and an agreeable subacid taste. The No. 32 (corresponding, we believe, with our plant here figured, the *Muldah* of the East Indies) resembles it in form and fragrance; it is of a yellow colour, and possesses a more luscious sweetness. It is now the most common of West Indian fruit-trees, very productive, and not only sought after by man, but by all the domestic animals. It fattens hogs and horned stock, and to horses will supply, in a great measure, the place of corn. The finer varieties are considered by many not inferior to the Pine-apple. They are very wholesome; and it is supposed their slightly terebinthine taste prevents the generating of worms. They are eaten plain, or sliced, with wine, sugar, and nutmeg. A very palatable spirit is obtained from the juice of the fruit and vinegar. In India the best kinds are increased by layers or grafting by approach.—With us its flowering-season is the early spring, and the fruit ripens in October and November.

Descr. Fine as our largest *Mango-tree* is (thirteen feet high), it is a dwarf compared with its ordinary size in the tropics. M'Fadyen speaks of the trunks being thirty to forty feet high, and Dr. Wallich

says they are from ten to fifteen feet in circumference; "a grove of that size," says Dr. Wallich, "is before my door." *Branches* numerous, more or less spreading. *Leaves* copious, alternate, petiolate, chiefly from the extremities of the young shoots, oblong-lanceolate, acuminate, six or eight inches and more long, firm, almost coriaceous, entire, penninerved, bluish-green, paler beneath: *petioles* one to two inches long, rounded, swollen at the base. *Panicles* copious,* terminal; main stalks furrowed and, as well as the patent branches, stout, tinged with red. *Bracteas* small. *Flowers* small. *Calyx* deeply five-cleft, downy, spreading. *Petals* ovate, reflexed, pale yellow, with three orange-coloured elevated ridges, forming a crest below the middle of the disk; these petals arising from a large fleshy five-lobed disk which surrounds the ovary. *Stamens* five, of which four are small and abortive, the third perfect: *filaments* subulate: *anthers* ovate, purple-red. *Ovary* subglobose, oblique, compressed, glabrous: *style* subulate, as long as the ovary. *Stigma* obtuse. Of the numerous flowers, very few swell and become fruit. *Fruit* a *drupe* as large as a goose's egg, broadly and obliquely ovate, subreniform, compressed, dull orange-colour, the remains of the style forming a little point below the apex. *Nut* obliquely oval, compressed, large, clothed with coarser filaments, to which the juicy flesh adheres pertinaciously. *Seed* large, reniform. *Cotyledons* very large, fleshy: *radicle* small. *W. J. H.*

Cult. The fruit of this fine East Indian tree being in high estimation, it has been introduced into the West Indies and the tropical parts of America, where it is now much grown, and in these countries may be considered as taking the place of the Peach of the temperate zone. Like all highly-cultivated fruits, the Mango has its varieties, varying in size and quality, some being large, fleshy, and fine-flavoured, while others are compared to a mouthfull of tow soaked in turpentine. In the Calcutta Botanic Garden the variety called *Muldah* being considered by Dr. Wallich as one of the best, numbers of grafted plants of it have been received by us at various times from thence; for, like other cultivated fruit-trees, the best sorts can only be perpetuated and increased by grafting, or rather by *inarching*, on stocks raised from seeds. Many of the plants, however, have died shortly after their arrival in this country. Whether this is owing to the nature of the stocks or to the mode of grafting, is uncertain, but it does not appear to be through want of care in

* The 'Gardeners' Chronicle' of this day, April 6th, 1850, gives the number of heads or panicles of flowers on a plant at Sir George Staunton's, Leigh Park, namely, 108: the number of flowers on each panicle is on an average 2,100, and the whole number of flowers was estimated at a quarter of a million, of which (as is usual even in tropical countries) only a very few ripen fruit. This year our tree has unquestionably produced an even much greater number of panicles.

their management, for we have known plants when under the most favourable circumstances and apparently in vigorous health to die suddenly above the graft. The Mango is recorded to have been grown in the hothouses of this country at least 160 years ago; but it is only within the last twenty years that it has come into notice as a fruit capable of being brought to perfection in England. The first, and, we believe, the most successful attempt was made by the late Earl of Powis, in his garden at Walcot, where he had a lofty hothouse 400 feet long and between thirty and forty wide, constructed for the cultivation of the Mango and other rare tropical fruits; but within these few years we have known it to bear fruit in other gardens. The plant here figured was sent by Dr. Wallich to these Gardens some years ago. In the summer of 1848 it was placed in the Palm-house, where, last year, it bore fifteen fine fruits. It is growing in a box three feet and a half square, and now forms a round bushy tree, eight feet across and thirteen feet high. This spring it has borne a profusion of flowers; and we now observe some young fruit, but it is not so abundant as might have been expected from the vast quantity of flowers. This deficiency of setting may be in some degree ascribed to its flowering at so early a period of the year, during cold dull weather, but, we believe, is chiefly owing to the want of impregnation of the ovules, on account of the imperfection of the stamens. The normal number of the latter is five, but out of that number only one, generally, bears pollen. As a single raceme seldom brings to perfection more than two to four fruits, it may be inferred that the great profusion of flowers is a provision of nature to supply the deficiency of perfect stamens; and being a hothouse plant and flowering at an early season, it is deprived of the agency of bees and other insects, to assist in conveying the pollen to the stigma. It is, therefore, essential that some substitute for insects should be resorted to. Brushing the flowers gently with a camel-hair pencil is probably the best plan; and, although from the smallness of the flowers the operation may be tedious, it should be repeatedly done while the plant is in flower. Judging by the soil in which Mango plants have been growing when imported, its nature does not appear to be important for ensuring successful cultivation in India. Under our cultivation we find the plants thrive in good yellow loam containing a little leaf-mould, or other rich vegetable matter, taking care that it be well drained. An average temperature of 60° in winter will suit them; this should be increased as spring advances and the plant begins to show symptoms of growth. *J. S.*

Fig. 1. Flower. 2. Petal. 3. Pistil:—*nat. size*. 4. Drupe. 5. Nut taken from the drupe. 6. Seed, bursting and showing the embryo:—*nat. size*.

Fitch del et lith.

R. B. & R. imp.

Tab. 4511.

GYNOXYS FRAGRANS.

Fragrant Gynoxys.

Nat. Ord. Compositæ.—Senecionideæ.—Syngenesia Superflua.

Gen. Char. Capitulum multiflorum, heterogamum, *fl. radii* 1-seriatis ligulatis fœmineis, *disci* tubulosis 5-dent. hermaphr. *Invol.* 1-seriale, bracteolis sæpius paucis subcalyculatum, disco brevius. *Recept.* planum, alveolatum. *Styli fl. herm. rami* in conum hispidum elongatum acutissimum producti, deorsum sæpe hispiduli. *Achenia* erostria, exalata, teretiuscula. *Pappus* conformis, pilosus, pluriserialis.—Species *in America æquinoctiali, aliæ arborescentes oppositifoliæ, aliæ scandentes alternifoliæ.* Folia *petiolata.* Capitula *corymbosa, flava. De Cand.*

Gynoxys *fragrans*; scandens glaberrima, foliis alternis sublonge petiolatis ovatis seu ovato-lanceolatis acutis subcarnosis integerrimis indistincte venosis, racemis corymbosis terminalibus, flosculis radii paucis, bracteolis 4–6 patentissimis subulatis.

We received this plant at the Royal Gardens of Kew from Guatemala, by favour of G. Ure Skinner, Esq. It proves quite new both to our Gardens and to the Herbarium, and where there is much stove accommodation, it is worth cultivating, for though the flowers are truly those of a *Ragwort*, they are of rather large size, and very fragrant, the scent very much like that of our garden stock, and the climbing habit is not of very common occurrence in the Natural Order of *Compositæ*. It flowered in December, trailed against the underside of the glass in the great stove. The genus *Gynoxys* is assuredly too near *Senecio*.

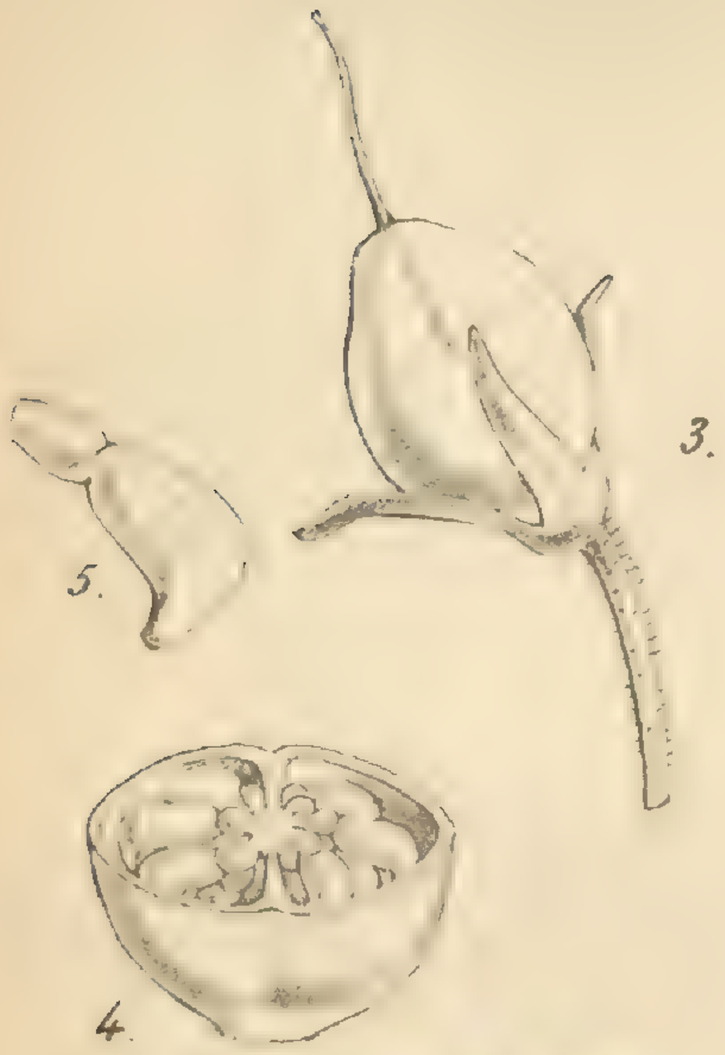
Descr. *Root* tuberous. *Stems* very long, climbing, perennial, branched; *branches* subpellucid and succulent, terete, apparently showing a disposition to root at the setting on of a branch. *Leaves* alternate, rather distant, petiolate, on long terete petioles, exactly ovate or approaching to lanceolate, acute, wavy at the margin, of a rather thick and fleshy texture, dark green, obscurely penninerved. The *flowers* are rather large, very fragrant, and form a terminal and in the lower part leafy corymbose *raceme*. *Involucre* cylindrical, with about six lax, spreading, subulate bracteoles at the base. *Florets* of the

spreading *ray* about six, ligulate, narrow: *florets* of the disk sixteen to seventeen, tubular. *Anthers* and *style* much protruded: *filaments* with a knot or swelling below the summit. *Anthers* apiculate. *Branches* of the *style* subulate, downy. *Achenium* cylindrical. *Pappus* rather shorter than floret. *W. J. H.*

Cult. This is a coarse-growing, soft-wooded, scandent plant, having a large, thick, fleshy root, of the nature of a tuber. It grows freely in a mixture of light loam and peat or leaf-mould, and, by its rapid growth and clean habit, is well adapted for covering trellis-work in the hothouse, or it may be trained up a rafter. It is not liable to be attacked by insects, which is a character much in its favour as a creeper. It increases readily by cuttings; but these, on account of their soft, succulent nature, must not be kept too close, or they will be apt to damp off before they have had time to produce roots. *J. S.*

Fig. 1. Stamen. 2. Floret of the disk. 3. Portion of the receptacle. 4. Apex of a floret of the ray. 5. Floret of the ray:—*magnified*.

4512.



Fitch del et lith.

R.B. & R. imp.

Tab. 4512.

VERONICA FORMOSA.

Handsome Speedwell.

Nat. Ord. Scrophulariaceæ.—Diandria Monogynia.

Gen. Char. *Calyx* 4–5-partitus, rarissime 3-partitus. *Corollæ tubus* nunc brevissimus nunc calycem superans ; *limbus* 4-fidus, rarius 5-fidus, patens, *laciniis* lateralibus vel imâ e lateralibus exterioribus sæpius angustioribus. *Stamina* 2, tubo inserta, exserta, ad latera laciniæ superioris sita. *Antherarum loculi* divergentes vel paralleli, apice confluentes. *Stylus* apice integer, subcapitato-stigmatosus. *Capsula* compressa vel turgida, bisulcata, carpellis dorso plus minus loculicide dehiscentibus, marginibus inflexis, columnæ placentiferæ adhærentibus, vel plus minus ab eâ septicide solutis ; vel capsula septicide cum columna placentifera bipartibilis. *Semina* ovata vel orbiculata, facie interna plana vel concava affixa, dorso plus minus convexa, lævia vel rugulosa. *Albumen* sæpius oblongum, circumdatum testa incrassato-cartilaginea alæformi vel calloso-marginante. *Embryo* rectus ; *radicula* ad apicem fructus spectans in speciebus oligospermis, ab hilo parum remota in polyspermis. *Benth.*

Veronica (Hebe) *formosa* ; fruticosa, ramis bifariam pilosulis, foliis brevissime petiolatis oblongo-lanceolatis acutis integerrimis uninerviis basi angustatis glabris, racemis in apicibus ramulorum paucifloris laxe subcorymbosis, calycis segmentis anguste lanceolatis acutis, capsula calyce duplo longiore, seminibus apice uncinato-acuminatis. *Benth.—Br. Prodr. p.* 434. *Benth. in De Cand. Prodr. v.* 10. *p.* 462.

Veronica diosmæfolia. *Kn. et Westr. Fl. Cab. v.* 3. *p.* 65. t. 106. *(non All. Cunn.)*

This pretty shrub has been long in cultivation at the Royal Gardens of Kew, raised from seeds sent from Van Diemen's Land, where it inhabits Mount Wellington. Lately it has been planted against a wall having an eastern aspect, and has been found to brave the winters, and to flower copiously in the summer-months. The flowers are a deep and bright blue, produced at the end of almost every branchlet.

Descr. Our plant forms a *shrub* about two feet high, erect, bushy, very much branched and subfastigiate, exhibiting two obscure lines of hairs between the leaves. *Leaves* copious, rather crowded, somewhat four-fariously inserted, oblong-lanceolate, patent and recurved, tapering at the base, scarcely petiolate,

single-nerved. Most of the *branchlets* are terminated by *racemes* of *flowers*, not many of which are open at one time, though there is a long succession of them. *Calyx* about half the length of the corolla, deeply cut into four nearly equal, linear-lanceolate segments. *Corolla* bright and deep purplish-blue, rotate, somewhat two-lipped; upper lip of one broad oval lobe, lower of three narrower segments, the middle one the smallest. *Stamens* two, shorter than the segments. *Capsule* elliptical, compressed, longer than the persistent calyx, two-celled. *Seeds* obovate, uncinato-mucronate, attached to a thick funiculus. *W. J. H.*

Cult. A neat-growing plant, which, with a few other species, belongs to a section of *Veronica* characterized as evergreen shrubs, having small, closely-set, decussate leaves, and forming Myrtle-like bushes. The old and well known *Veronica decussata* may be viewed as the type of the group. They are natives of high southern latitudes, being found in Van Diemen's Land, New Zealand, Falkland Islands, and Lord Auckland's and Campbell's Islands, in lat. 53°. As might be expected, from the nature of the climate of these southern lands, the two species known to us in a living state prove sufficiently hardy to bear the winter of this climate, when planted in sheltered situations, and protected during severe frosts. The species figured is a native of Mount Wellington, in Van Diemen's Land, and has been known to us for a number of years. Its neat habit makes it worthy of being kept in the greenhouse, where it produces its pretty racemes of light blue flowers in the spring. It grows readily in light loam and leaf-mould, and is easily propagated by cuttings, treated in the usual way; it also freely produces seeds. *J. S.*

Fig. 1. Flower. 2. Calyx. 3. Capsule. 4. Transverse section of ditto. 5. Seed:—*magnified.*

4513.

1.

2.

Fitch del et lith.

R. B. & R. imp.

Tab. 4513.

IXORA barbata.

Bearded Ixora.

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4325.)

Ixora *barbata*; foliis elliptico-oblongis acutis brevi-petiolatis glaberrimis nitidis, floralibus subcordatis sessilibus, paniculis amplis laxis trichotome ramosis subcorymbosis, corollæ (albæ) tubo longissimo, limbi lobis obovatis patentireflexis, fauce radiatim barbata, stylo exserto.

Ixora barbata. *Roxb. Fl. Ind. v.* 1. *p.* 384. *ed. Wall. v.* 1. *p.* 394. *Wight, Ic. Plant. Ind. Or. v.* 1. *p.* 185. *Sims in Bot. Mag. t.* 2505?

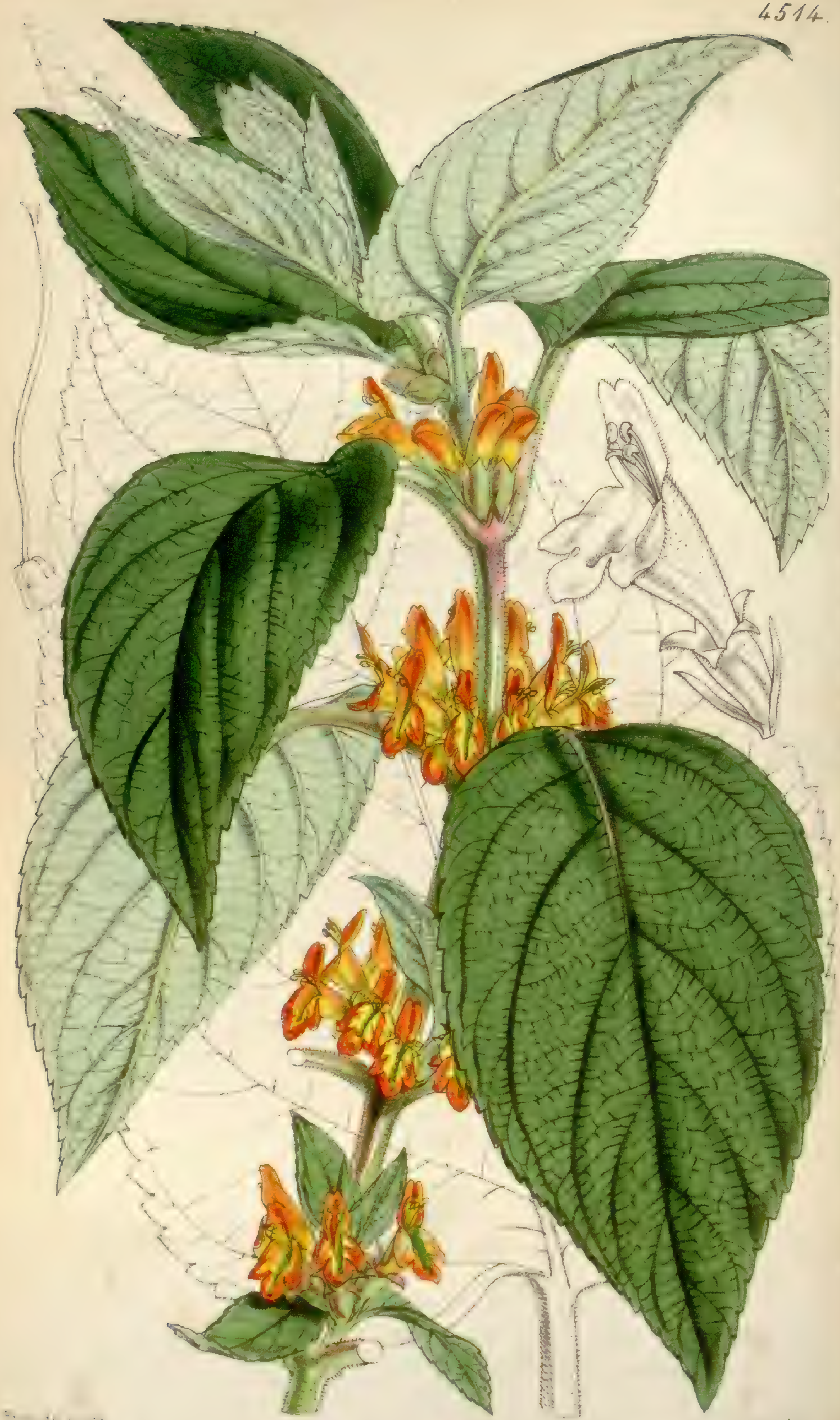
A very handsome plant, still rare in our stoves, with fragrant and very delicate white blossoms, each corolla having its mouth fringed with a stellated circle of hairs. If the figure of Dr. Sims, above quoted, be intended for this plant, it is a very defective representation, both as regards the panicle of flowers and the foliage, exhibiting of the latter only the two uppermost pairs of leaves, in fact the floral, or lowest pair of bracteal, leaves, which differ considerably in form from the cauline ones. Dr. Sims, indeed, himself alludes to the differences between his plant and the original species of Roxburgh, which ours undoubtedly represents, as does Dr. Wight's figure, in his invaluable 'Icones,' and which, indeed, is copied from Roxburgh's original drawing. Our plant was communicated to the Royal Gardens by Dr. Wallich, from the Calcutta Garden, and, hitherto at least, it is only known from that source, Dr. Roxburgh remarking, "I have only found this in the Botanic Garden." It flowered in the stove in July.

Descr. With us this forms a *shrub*, about six feet high, with rather straggling, opposite *branches* and handsome foliage. *Leaves* elliptical-oblong, acute, penninerved, subcoriaceous, glossy, short, petioled. *Stipules* ovate, acuminate, deciduous from the older branches. *Floral-leaves* one pair, large, placed at the base of the main peduncle, and resembling the other leaves in con-

sistency and almost in size, but sessile or nearly so and cordato-ovate. *Panicles* terminating the branches, large, spreading, subcorymbose, trichotomously divided. *Floral-bracts* gradually smaller upwards, ovate, acute. *Calyx-tube* globose, reddish-green, adherent with the ovary: *limb* of five small, erect teeth. *Corolla* with the *tube* an inch and a half long, slender, a little curved, greenish-white: *limb* pure white within, spreading and reflexed, the segments obovate, obtuse: the *faux* or *mouth* of the corolla encircled with a delicate fringe of hairs. *Style* exserted. *Stigma* club-shaped, bifid. *W. J. H.*

Cult. With few exceptions, the numerous species of *Ixora* are natives of the East Indies, Java, and other islands of the Indian Ocean; they require, therefore, to be cultivated in a warm and moist hothouse. An atmosphere similar to that maintained in the Orchideous house will suit them. This is an erect, slender species, apt to become thin and naked below; it is, therefore, necessary occasionally to stop the leading shoots, in order to make it throw out side-branches. Light loam and sandy peat-soil suit it, if the pot is well drained. Like the other well-known species, this increases readily from cuttings, planted in sand under a bell-glass, and plunged in bottom heat. *J. S.*

Fig. 1. Flower. 2. Pistil:—*magnified.*



Reeve Benham & Reeve imp.

Tab. 4514.

COLQUHOUNIA coccinea.

Scarlet-flowered Colquhounia.

Nat. Ord. Labiatæ.—Didynamia Gymnospermia.

Gen. Char. Cal. tubuloso-campanulatus, 10-nervius, subincurvus, subæqualiter 5-dentatus, fauce intus nuda. *Corolla* tubo exserto incurvo intus nudo fauce dilatata, *limbo* bilabiato, *labio superiore* erecto integro subplano, *inferiore* subpatente, lobis 3 brevibus ovatis integris. *Stamina* sub galea adscendentia. *Filamenta* basi nuda. *Antheræ* approximatæ, biloculares, loculis demum divaricatis. *Stylus* apice subæqualiter bifidus, lobis subulatis. *Nuculæ* oblongæ, siccæ, læves, apice membranaceo productæ.—Frutices *Indici, volubiles, scandentes vel erecti, sæpe tomentosi nec pilosi.* Verticillastri *laxi, axillares, vel in spicam terminalem approximati.* Bracteæ *minutæ.* Corollæ *coccineæ. Benth.*

Colquhounia *coccinea*; scandens, foliis glabriusculis asperulis junioribus calycibusque tomento tenui canescentibus, dentibus calycinis ovatis obtusis, corollæ labio superiore ovato. *Benth.*

Colquhounia coccinea. *Wall. in Trans. Linn. Soc. Lond. v.* 13. *p.* 688. *Fl. Nepal. v.* 1. *p.* 13. *t.* 6. *Benth. in De Cand. Prodr. v.* 12. *p.* 457.

The present is one of three Indian species of plants constituting the genus *Colquhounia* of Dr. Wallich, named by that zealous botanist in compliment to his friend Sir Robert Colquhoun, Bart., a gentleman very conversant with the various branches of Natural History, and who communicated to the noble Garden of Calcutta many living plants and specimens, and observations on the botany of Kumaon. The species now before us was detected by Dr. Wallich in the mountain districts of Nepal, and was first published in the Linnæan Transactions, and afterwards, with a figure, in the valuable 'Tentamen Floræ Nepalensis.' The two other species appeared in the splendid 'Plantæ Asiaticæ Rariores' of the same author. This species has, at first sight, little of the general aspect of a Labiate plant, but rather of some of the *Vitices.* It is a tall-growing and subscandent shrub, and flowered in the open air, against a west wall, in September 1849. The seeds had been many years ago sent by Dr. Wallich. The flowers are handsome.

May 1st, 1850.

Descr. A tall straggling and subscandent *shrub*, with woolly, obscurely four-angled branches. *Leaves* opposite, rather long, petiolate, ovate, approaching to cordate, moderately acuminate, rather strongly dentato-serrated, penninerved and reticulated, nearly glabrous above, ashy and very downy, almost woolly, beneath. *Petioles* one to three inches long, woolly. *Flowers* axillary, three to five, on very short *peduncles*, pseudo-verticillate. *Bracteas* small, linear, shorter than the calyx. *Calyx* half the length of the tube of the corolla, funnel-shaped, five-angled, but the angles concealed with woolly down, five-toothed, spreading. *Corolla* with a yellow ground, but the upper lip and back of the tube and margin of the lower lip red; *tube* much dilated upwards, downy; *limb* two-lipped; *upper lip* erect, nearly plain, ovate, bifid, *lower lip* large, deflexed, three-lobed, lobes ovate. *Stamens* moderately exserted. *Ovary* deeply four-lobed, situated in a fleshy *gynophore*. *Style* a little thickened upwards. *Stigma* bifid. *W. J. H.*

Cult. A soft-wooded, tomentose shrub, a native of Nepal, and, like many other plants of that country, sufficiently hardy to endure the open air of this country when planted against a wall, or in a sheltered situation, and protected during severe frosts with a mat, or some such covering. A plant in the Royal Gardens, growing against a west wall, has survived the last two winters; the upper part of the branches has been destroyed, but the stout and woody part lower down is uninjured. It grows luxuriantly during the summer, and in autumn produces its flowers. It is propagated by cuttings. *J. S.*

Fig. 1. Flowers and bracts. 2. Pistil :—*magnified.*

1

2.

Fitch del et Lith.

R. B. & R. imp.

Tab. 4515.

METROSIDEROS BUXIFOLIA.

Box-leaved Metrosideros.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4471.)

Metrosideros *buxifolia*; scandens, ramis incanis, foliis quadrifariis patentibus ovato-rotundatis obtusis coriaceis subsessilibus nitidis margine revolutis utrinque pilis incanis conspersis subtus punctatis, floribus in axillis terminalibus, pedunculis brevibus trifloris.

Metrosideros buxifolia. *All. Cunn. in Ann. of Nat. Hist. v.* 3. *p.* 111. *Walpers, Repert. Bot. v.* 2. *p.* 165.

Metrosideros scandens. *Forst. in Gærtn. Fruct. v.* 1. *p.* 172. *t.* 34. *f.* 10.

This and other "scandent" New Zealand species of *Metrosideros* do not, in cultivation and confined as they are in pots or tubs, give any idea of the climbing character attributed to them. With us the present species has a Myrtle-like habit, four to five feet high, with rather robust branches and leaves, which only require to be more acute to be quite like those of a common *Myrtle* in shape. Allan Cunningham describes it in New Zealand as "a rambling shrub adhering to trees, and by its lateral roots climbing to the summits of the loftiest timber in the forests of Wangaroa, Bay of Islands." It appears to be not uncommon in the Northern Island, and is called by the aborigines *Aki*, and by the Missionaries *Lignum-Vitæ*, no doubt on account of the hardness of the wood. It requires the protection of a greenhouse in this country, and flowers in August.

Descr. A much branching *shrub*, scandent and rooting in its native country, in the same way as Ivy with us. Young *branches* hoary. *Leaves* approximate, patent, in four rows, small, half an inch long, almost sessile, elliptical or ovato-rotundate, very obtuse, coriaceous, glossy, dark green above, somewhat hoary with minute appressed hairs more copious beneath, where they are also dotted, and where the ground-colour is paler: the margins are revolute: *nerves* about five, the lateral ones from near the base. *Peduncles* very short, three-

flowered, from the axils of the upper leaves, and thence forming a sort of capitate leafy *corymb*. *Pedicels* very short. *Calyx* turbinate, dotted and slightly hairy, the *limb* of five, obtuse lobes. *Petals* elliptical, small, white. *Stamens* about twenty-five. *Filaments* erect, white, four times as long as the erect *petals*. *Anthers* small, yellow. *Style* filiform, shorter than the stamens. (*Capsule* small, globose, three-celled. *A. C.*) *W. J. H.*

Cult. This a neat box-leaved evergreen shrub. In its climbing habit it resembles *Metrosideros florida* and *M. tomentosa*, figured at tabs. 4471 and 4488, and, like them, it requires, in this climate, the protection of the greenhouse during the winter and spring months. It grows freely if potted in light loam, and, on account of its slender growth, requires support. It is easily increased by cuttings placed under a bell-glass. *J. S.*

Fig. 1. Peduncle with three flowers. 2. Calyx and pistil :—*magnified.*

Fitch del et lith.

R.B. & R. imp.

Tab. 4516.

HEDYCHIUM CHRYSOLEUCUM.

Golden and white Garland-flower.

Nat. Ord. Scitamineæ.—Monandria Monogynia.

Gen. Char. *Cal.* tubulosus, tridentatus. *Corollæ tubus* elongatus, gracilis, limbi laciniæ exteriores angustæ, æquales, interiores conformes, paulo breviores; *labellum* majus indivisum, v. sæpius emarginatum aut bifidum. *Filamentum* filiforme; *anthera* terminalis, incumbens, utrinque emarginata. *Stylus* filiformis; *stigma* infundibuliforme. *Ovarium* inferum, triloculare. *Ovula* in loculorum angulo centrali plurima, horizontalia, anatropa. *Capsula* trilocularis, loculicido-trivalvis. *Semina* plurima, arillata.—Herbæ in *Asia tropica obviæ, caulescentes*; radicibus *tuberosis, articulatis, horizontalibus*; foliis *in vaginis semi-amplexicaulibus subsessilibus*; inflorescentia *terminali, spicata*, spathis *imbricatis*, floribus *fasciculatis*, bracteis *involutis*. *Endl.*

Hedychium *chrysoleucum*; foliis oblongo-lanceolatis acuminatis, spathis exterioribus latis obtusissimis, interioribus cylindraceis tubulosis, floribus laxe spicatis, perianthii limbi laciniis ext. linearibus, int. lacinia media rotundata unguiculata profunde bifida, laciniis lateralibus oblongo-ovatis basi attenuatis, stamine laciniis longiore.

A very handsome and deliciously scented "*garland-flower*," the flowers a very pure white, bright orange in the disk, and the anther and filament a very deep orange. It has been long an inhabitant of our stove, and was sent from India by the late Dr. Roxburgh. It appears to have escaped the notice of the distinguished author of the work on monandrous Scitaminean plants; though it is nearly allied to two which are figured in that splendid book, the *Hedychium flavescens* (*H. flavum, Bot. Mag.* t. 2378) and *Hedychium spicatum*. From the former it is at once distinguished by its glabrous leaves, from both by the larger flowers and the much larger and broader lateral segments, and by the pure white of the inner segments of the perianth with the rich orange-colour of the disk or centre. It flowers in the autumn, and deserves a place in every stove.

Descr. *Plant* about five feet. *Leaves* a foot or more long,

subdistichous, oblong-lanceolate, sharply acuminated, glabrous on both sides, the bases forming long sheaths, auricled at the top of the sheath. *Spike* many-flowered, bracteated. *Bracteas* lax, outer or lower ones broad and obtuse or retuse, inner or upper ones convoluted and almost cylindrical. *Tube* of the perianth very long, slender, terete, slightly widening upwards. *Limb* of six segments: the three outer ones linear, tawny yellow, soon withering and reflexed; inner of three very unequal segments, all pure white with a deep orange disk; the *superior* one, or *lip*, very large, suborbicular, clawed, deeply bifid, the *lateral* ones spreading horizontally, ovate-oblong, all attenuated below. *Filament* longer than the inner portion of the perianth, grooved above for the reception of the *style*: *anther* linear-oblong, recurved, of the same colour as the filament. *Stigma* green, protruded a little beyond the anther. *W. J. H.*

Cult. The genus *Hedychium* consists of tropical perennial plants, characterized by a thick, fleshy, creeping, rhizome-like root, from which arises an herbaceous, leafy stem, formed of the sheathing bases of the leaves, and bearing a terminal head or long spike of showy flowers. After flowering, the stem dies down, and the roots assume a state of rest, remaining so until again stimulated into action by heat and moisture. When artificially cultivated, it is therefore desirable, when the plant has flowered and the stems show symptoms of decay, gradually to reduce the supply of water. During winter the soil should be kept just sufficiently moist to prevent the roots from shrivelling: early in the spring these should be shaken out of the old soil, and the young and vigorous rhizomes selected for repotting. Fresh loam mixed with a little rotten dung, or other rich vegetable manure, suits them, provided it be not such as will become sour and retentive of water: to guard against this, the pot must be well drained. In order to start the plants into growth, they should be placed in a warm pit, little water being given till they have made some progress, after which, and during the summer months, they will require to be freely supplied with it. *J. S.*

Fitch del et lith.

Reeve Benham & Reeve, imp.

Tab. 4517.

OBERONIA iridifolia.

Iris-leaved Oberonia.

Nat. Ord. Orchideæ.—Gynandria Monogynia.

Gen. Char. Sepala patentia v. reflexa, sæpius inter se æqualia, libera. *Petala* sepalis minora, nunc iis conformia, nunc linearia, aliquando erosa. *Labellum* ascendens, cum columna haud articulatum, forma varia, sæpius elongatum, semper magis minusve distincte 4-lobum: lobis lateralibus nunc dentiformibus, intermediis quandoque fere connatis. *Columna* minima, libera, stigmate elevato. *Anthera* bilocularis. *Pollinia* duo, pyriformia, solida.—Herbæ *supra arbores et saxa crescentes, sæpius acaules*; foliis *semper distichis*. Scapus *sæpius anceps*. Flores *nunc racemo longissimo verticillati, nunc alterni, virides v. lutei. Lindl.*

Oberonia *iridifolia*; foliis latis ensiformibus, racemo longo, basi ancipiti multifloro, floribus verticillatis, bracteis fimbriatis, sepalis reflexis, petalis erosis, labello subovato obtuso fimbriato basi concavo obsolete 4-lobo. *Lindl.*

Oberonia iridifolia. *Lindl. in Wall. Cat. n.* 1948. *et in Gen. et Sp. Orchid. p.* 15.

Cymbidium iridifolium. *Roxb. Hort. Bengal. p.* 63. *Fl. Ind. v.* 3. *p.* 458.

Malaxis ensiformis. *Sm. in Rees' Cycl. v.* 22.

The genus *Oberonia* is one of the most remarkable of all Orchideous plants, in the distichous characters of the leaves and in the usually *very* dense spikes of minute flowers, not inaptly resembling those of *Myosurus*. The name is thus classically explained by its author, Dr. Lindley: "Ut *Oberon*, regiolus ille Dryadeus, Empusarum septentrionalium princeps, in ramos arborum equitat, inter folia vultum multiformem abscondens, sic herbiolæ nostræ, facie non minus mutabiles, in Indiæ sylvis latitant v. in curru suo frondoso triumphant." The present is, I believe, the largest of the known species, and is a native of Otaheite, where it was first detected by Sir Joseph Banks (and whence our living plants were sent us by Mr. Bidwill), of Ceylon (*Macrae*), and of Nepal and Silhet, where it was found by Dr. Buchanan Hamilton and by Dr. Wallich, and where it flowers in the cold season. With us it first produced its singular flower-spikes (more like a rat's than a mouse's tail) in January 1850.

Descr. Epiphytal. *Leaves* few, broad, ensiform, acuminated,

fleshy, equitant; in young plants generally brownish or copper-coloured; older ones light green. *Scape* equitant, almost winged, shorter than the leaves. *Spike* longer than the scape, of innumerable, dense, minute, bracteated *flowers*, of a pale yellowish flesh-colour. *Bracteas* membranaceous, ovate, fimbriated. *Sepals* and *petals* ovate, reflexed, the latter erose or irregularly serrated. *Lip* subovate, cucullate and fleshy, and deep orange-coloured at the base, somewhat four-lobed, downy within, side-lobes indistinct, terminal lobes forming a bifid apex with a mucro in the sinus. *Column* very short, clavate; *stigma* prominent. *Anther-case* hemispherical, sunk within a cavity at the back of the stigma. *Pollen-masses* two, oblong. *W. J. H.*

Cult. Being a native of the warm parts of India, this Orchid requires to be grown in the warm division of the Orchideous house. We have found it succeed when attached to a block of wood suspended near the glass, the plant being in an inclined position. A damp atmosphere is essential to it; still it appears to suffer if long exposed to any excess of moisture, especially during the winter season. *J. S.*

Fig. 1. Flower and bractea. 2. Ovary and column. 3. Pollen-masses:—*magnified.*

Fitch del et lith.

Reeve, Benham & Reeve, imp.

Tab. 4518.

HOYA coriacea.

Coriaceous-leaved Hoya.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. (*Vide supra*, Tab. 4347.)

Hora *coriacea*; volubilis glabra, foliis coriaceis ellipticis acutis v. acuminatis basi rotundatis v. obsolete emarginatis subvenosis (penniveniis) supra petiolum calloso-glandulosis, umbellis longissime pedunculatis multifloris, corollæ intus sericeo-velutinæ laciniis triangulari-ovatis acutis, coronæ staminеæ foliolis supra convexis, angulo exteriore obtusiusculo subreclinato.

Hoya coriacea. *Bl. Bijdr. Flor. Ned. Ind. p.* 1063. et in *Rumphio, vol.* 4. *t.* 187. *De Cand. Prodr.* 8. *p.* 638. *Bl. Mus. Bot. Lugd. Bat.* 1. *p.* 44.

Discovered by Dr. Blume in mountain woods on the western side of Java. Mr. Thomas Lobb detected it in the same island, on Mount Salak, and transmitted living plants to the rich nursery of Messrs. Veitch at Exeter, in whose collection this handsome species first blossomed in August 1849. It is a climber, and requires the heat of the stove.

Descr. Everywhere glabrous. *Stem* branched, twining, terete; young branches green. *Leaves* opposite, on short thick petioles, which are glandular above at the setting on of the blade, which latter is almost exactly elliptical, or approaching to ovate, acute, between coriaceous and fleshy, acute or shortly acuminated, costate, penniveined, the veins rather indistinct. *Peduncles* subaxillary, solitary, terete, longer than the leaf, pendent, bearing a large *umbel* of numerous *flowers*, brown in the state of the bud, much paler when fully expanded. *Pedicels* very obscurely villous. *Calycine segments* subulate, much shorter than the corolla. *Corolla* rather large, glabrous and glossy externally, within pale tawny and downy: the lobes triangular, acute, the sides a little reflexed. *Staminal crown* white, with a dark brown eye; leaflets ovate, gibbous at the base, obtuse, the apex a little curved down. *W. J. H.*

Cult. The genus *Hoya* consists of between forty and fifty

described species, which, with a few exceptions, are natives of tropical India and the Malayan Islands. They are soft-wooded, suffruticose, twining plants, of an epiphytal habit; their leaves are usually thick and coriaceous. Most of the species inhabit moist woods, though some grow in exposed places, subject to great drought during the tropical dry season. This plant is a native of moist woods in Java, and is described as a strong-growing species. It requires a temperature suitable for tropical Orchids, but less moisture, especially during winter. It is adapted for growing against a back wall or for training up rafters; or it may be coiled round a trellis fixed to a pot. Light peat soil, mixed with a portion of turfy loam, is suitable, provided it be not such as will become stagnant by an excess of water. To prevent this, the pot should be well drained with potsherds, and pieces of charcoal mixed with the soil. It is propagated by cuttings placed in heat.

Fig. 1. Calyx and ovaries. 2. Flower:—*magnified*.

Fitch, del et lith.

Reeve Benham & Reeve, imp.

Tab. 4519.

OCHNA atro-purpurea.

Dark-purple Ochna.

Nat. Ord. Ochnaceæ.—Polyandria Monogynia.

Gen. Char. (Ochna, Diporidium inclus.) *Calyx* pentaphyllus, coloratus, *foliolis* imbricatis, deciduis. *Corollæ petala* 5–10, hypogyna, calyce paulo majora, obovata v. oblonga, patentia. *Stamina* plurima, petalis breviora; *filamenta* filiformia, *antheræ* introrsæ, biloculares, filamentis breviores v. longiores, basi affixæ, loculis oppositis, ovatis, filamento brevioribus, juxta totam longitudinem v. linearibus filamentum superantibus, rima basim haud attingente, puls minus longa dehiscentibus. *Ovarium* columna centrali stylifera depressissima, ampliata tri- quinque- decempartitum, lobis *gynophoro* ovato v. hemisphærico lata basi oblique insidentibus, obtusissimus, *ovulo* unico adscendente fœtis; *stylo* inter lobos centrali, apice quinque- decemfido, stigmatibus minimis. *Baccæ* 5–10 v. abortu pauciores, interdum solitariæ, gynophoro ampliato insidentes, uniloculares, monospermæ. *Semen*. . . . .—Arbores *v.* frutices, *in Asia, Africa tropica crescentes;* foliis *alternis, deciduis, simplicibus, serratis v. rarius subintegerrimis,* stipulis *axillaribus geminis, deciduis,* racemis *pedunculatis, sæpissime e gemma squamosa infra folia annotina ortis bracteatis,* floribus *luteis,* pedicellis *medio aut paulo supra basin articulatis. Endl.*

Ochna *atro-purpurea*; floribus 5-petalis solitariis vel 2–4-racemulosis, antheris linearibus apice biporosis, stigmatibus brevissimis, foliis oblongis serratis subintegrisve.

Ochna atro-purpurea. *De Cand. in Ann. Mus. d'Hist. Nat. v.* 17. *p.* 412. *Ejusd. Prodr. v.* 1. *p.* 736. *Planch. in Hook. Lond. Journ. Bot. v.* 5. *p.* 654.

Diporidium atro-purpureum. *Wendl.*

Ochna arborea. *Burch. in De Cand. Prodr. v.* 1. *p.* 736. *Planch. l. c. p.* 654.

Ochna serrulata. *Hochst. in Krauss Fl. Natal. p.* 41 (*sub Diporidio*).

Ochna Natalitia. *Meisn. in Hook. Lond. Journ. Bot. v.* 2. *p.* 58 (*sub Diporidio*). *Planch. l. c. p.* 655.

Ochna Delagoensis. *Eckl. et Zeyh. Enum. Pl. Afr. Austr. p.* 926 (*sub Diporidio*). *Walp. Repert. v.* 1. *p.* 528. *Planch. l. c. p.* 655.

Arbor Africana. *Pluken. Alm. t.* 263. *f.* 1, 2.

An evergreen greenhouse shrub, native of South Africa, east of the Cape, and extending as far as Delagoa Bay, varying, however, much in size, in the solitary or racemose flowers, in the size and serratures of the leaves, which are sometimes sharply serrated, sometimes nearly if not quite entire. The original authority for this plant is Plukenet's very indifferent figure above quoted, which De Candolle characterized as having "ovate, acutely denticulated leaves." Such a form of leaf neither exists in Plukenet's plate, nor have I seen it on any South African *Ochna*. The *O. arborea* of Burchell is said to have "oval-oblong and nearly entire leaves," quite according with *O. atro-purpurea*. Then an *O.* (*Diporidium*) *serrulata* was described by Hochstettin from Port Natal, partly agreeing with our present plant, and which M. Planchon has rightly referred to it. *O.* (*Diporidium*) *Natalitia* of Meisner (also from Port Natal) has no better claim to be distinct, and is, I believe, intended to be identical with

O. serrulata of Hochst. Lastly, the *O.* (*Diporidium*) *Delagoensis* of Ecklon and Zeyher, in its character, differs in no respect from a common form of *O. atro-purpurea*, and my own specimen from Delagoa Bay (gathered by Forbes) cannot be distinguished from it. It is to be feared that many other South African species have been, in the same way, needlessly multiplied and equally require the pruning-knife. *O. atro-purpurea* derives its name from the dried state of the plant, when the large persistent calyces become of a lurid purple-brown, especially when in fruit. In the living plant, the bright yellow flowers with pale yellow-green calyx enliven the greenhouse in the month of March.

Descr. A rather harsh-looking, rigid *shrub*, varying in size (sometimes, it would appear, from Burchell's name, tree-like), with oblong, evergreen *leaves*, on short footstalks, quite glabrous, acute, the margins sometimes almost spinuloso-serrate, generally moderately serrate, sometimes nearly or quite entire. *Flowers* either solitary upon axillary slender petioles, or racemose and then often terminal. *Calyx* of five, nearly ovate, concave, pale green *sepals*, turning red as the fruit ripens, and persistent. *Petals* five, obovate, spreading, concave, yellow: these and the many *stamens* arise from a long, fleshy, eventually red *torus* or *gynobase*. *Anthers* golden-yellow, linear, opening at the apex by two pores. *Ovaries* five, surrounding a straight *style*, which divides at the apex into five short, radiating *stigmas*. Of the five *ovaries*, only one becomes a transversely ovate, large, black, glossy *berry* upon the large fleshy *torus*, now, as well as the calyx, turned red. (This handsome fruit did not ripen till after the plate was engraved.) *W. J. H.*

Cult. A rigid branched shrub, introduced to the Royal Gardens in 1823, and which, being a native of the Cape of Good Hope, was treated as a greenhouse plant. Although it continued to maintain a fair degree of vigour (considering its scrub-like habit), yet it never produced flowers till this season. This was probably owing to its having been placed under different circumstances from those to which it had been accustomed. Thinking it would be benefited by greater warmth during winter, and having accommodation in the Palm-house, it was placed there last autumn. The result was, that in April we were agreeably surprised to see it profusely covered with its pretty, sweet-scented flowers. Several other plants have flowered similarly for the first time on being placed in a greater degree of heat, which shows that with our long-continued low temperature in winter and spring, and deficiency of bright sunshine in summer (as compared with the Cape), our usual greenhouse climate is not adapted for the perfect development of this and other slow-growing Cape and New Holland plants. *J. S.*

Fig. 1. Stamen. 2. Pistil and torus :—*magnified*.

Fitch del. et lith.

Reeve Benham & Reeve imp

Tab. 4520.

HOYA purpureo-fusca.

Brown purple-flowered Hoya.

Nat. Ord. Asclepiadeæ.—Pentandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4347.)

Hoya *purpureo-fusca*; glaberrima, volubilis, caulibus ramisque teretibus radicantibus, foliis carnoso-coriaceis crassis ovatis acutis utrinque 5-nerviis ad petiolum crassum calloso-glandulosis, pedunculis folio brevioribus, umbellis hemisphæricis compactis multifloris, corolla supra pubescenti-hirsuta cinereo-fusca, coronæ staminеæ foliolis ovatis acutis purpureo-fuscis superne planis.

A native of Java, where it was detected and whence it was sent to Messrs. Veitch of the Nursery, Exeter, by his collector, Thomas Lobb, who describes it, as it really is, as a handsome climber, common in the woods at Panarang. Its nearest affinity is with *H. cinnamomifolia*, having the same kind of foliage, that is, with parallel nerves (not penninerved) and flowers of nearly the same size and shape, but the colour is extremely different in the two, and in this the corolla is pubescenti-hirsute; in which particular, and in the parallel nerves of the leaf, it approaches the *Hoya macrophylla*, Bl. Rumphia, t. 185; but in the latter the leaf is reticulated between the nerves, the staminal crown has the leaflets much more acuminated, and the colour of the flowers is quite different. It flowered copiously in Mr. Veitch's stove in September, 1849, when our drawing was made. The flowers are of a rich purplish-brown.

Descr. A glabrous twining and branching *shrub*, everywhere (except the corolla) glabrous: *branches* terete, often throwing out short fibrous *roots*. *Leaves* opposite, on very thick, brownish *petioles*, four to five inches long, exactly ovate, acute, or shortly acuminate, thick, fleshy, five-nerved, the nerves all diverging from the base, and having a gland at the base where set on to the petiole. *Peduncles* axillary, shorter than the leaf, occasionally rooting, and bearing a dense many-flowered *umbel*. *Pedicels* slender. *Calyx* of five deep, almost subulate, segments.

Corolla rotate, ashy-brown, pubescenti-hirsute above, cut into five roundish and shortly acuminated lobes. *Staminal crown* of five ovate, fleshy, rich purple-brown, acute leaflets, nearly plane at the top, convex below. *W. J. H.*

Cult. In habit and manner of growth, this agrees with the species figured at Tab. 4518. Coming from the same locality, it will succeed with the same kind of treatment. *J. S.*

Fig. 1. Flower :—*magnified.*

Fitch del et lith.

Reeve Benham & Reeve imp.

Tab. 4521.

ECHINOPSIS CRISTATA; *var.* PURPUREA.

Crested Echinopsis; purple-flowered var.

Nat. Ord. Cactaceæ.—Icosandria Monogynia.

Gen. Char. Echinopsis, *Zucc.*—*Perigonii tubus* ultra germen longe productus, pulvilligerus; phylla numerosissima, sepaloidea infima squamiformia, superiora elongata spiraliter imbricata in axillis setigera, petaloidea longiora, plus minusve patentia, corollam lato-infundibuliformem vel subcampanulatam æmulantia. *Stamina* biserialia, serie una fundo tubi inserta et versus perigonii limbum anticum fasciculatim convergente, serie altera cum toto tubo connata et orificio tubi quasi circulatim inserta. *Stylus* filiformis stamina vix superans. *Stigma* multiradiatum, radiis linearibus. *Bacca* squamata, squamarum axillis setosis. *Cotyledones* connatæ, minutæ, globulosæ.—Caulis *carnosus, depressus, globosus vel subcylindraceus, vertice nunquam lanigero, costis plus minusve numerosis instructus verticaliter continuis* (*repandis, obrepandis, vel crenulatis*), *aut interruptis* (*tuberculis pulvilligeris oblique subdistinctis*). Aculei *brevissimi vel elongati, recti vel curvati.* Flores *semper laterales, erecti, per aliquot dies noctu dieque aperti.* Gemma florifera *pilis sericeis, plerumque nigris, dense vestita est. Salm-Dyck.*

Echinopsis *cristata*; caule depresso-globoso nitido viridi 17-costato, costis compressis inter pulvillos cristatim obrepandis, pulvillis immersis subconfertis grisco-tomentosis, aculeis rigidis exterioribus 10 recurvato-patentibus summo cum centrali solitario longioribus recto-recurvulis. *Salm-Dyck.*

α. Flore albo.

Echinopsis cristata. *Salm-Dyck, Cacteæ in Hort. Dyck. cult.* pp. 38 and 178.

Echinocactus obrepandus. *Salm-Dyck, A. G. Z.* 1845. p. 386.

β. Flore purpureo. (Tab. Nostr. 4521.)

Specimens of this fine plant, no less remarkable for the large size of its flowers than for the deeply-lobed ribs of the stem, were purchased of Mr. Bridges on his return from Bolivia, where he had gathered them and other fine species of *Cactaceæ* then first known in our gardens, in 1844. In 1846, the individual which blossomed, and which is here represented, produced purple flowers; that which bloomed the following year (1847) bore white ones. The latter we look upon as identical with the *Echinopsis cristata* of Salm-Dyck. The genus *Echinopsis*, if genus it really be, is placed in a distinct tribe, *Cereastreæ*, from *Echinocactus*, which is in *Echinocacteæ*: the former being characterized by having *the flowers lateral, the tube of the peri-*

gone generally elongated: the latter having *the flowers arising from the vertex of the stem, and the tube of the perigone generally short.* July has been with us the season of flowering.

Descr. Our largest specimen is about seven inches in diameter, globose, but depressed and rather deeply umbilicated at the top, full green (not glaucous), somewhat glossy, deeply furrowed, the ribs about 17–18, nearly straight, much compressed, notched at nearly equal intervals, and thus divided into a number of very obtuse rounded lobes (crested). *Pulvinuli*, or collections of down, in the notches, from which also diverge 10–12 slightly curved, strong, large, and unequal *spines*, or *aculei*, the uppermost one and central one rather the longest and strongest, all of a dull-brown colour. *Flowers* very large, 2–4 from a plant, arising from near the summit and from one of the pulvilli, funnel-shaped, the *tube* six inches long, green, bearing numerous acuminated scales, fringed with rather copious woolly black hair, uppermost scales longer, gradually passing into sepals, and those again into numerous oblong, spreading, rose-coloured *petals*, serrated and mucronate at the point. *Stamens* numerous, inserted at the mouth, yellow. *Anthers* small. *Style* reaching to the mouth of the flower, and bearing the numerous long, woolly, slender *rays* of the *stigma*.

Cult. This showy *Echinopsis* is a native of Chili, and, like its Mexican allies, thrives if potted in light loam with a little leaf-mould and a few nodules of lime-rubbish. The latter are for the purpose of keeping the soil open; it is also necessary that the pot should be well drained. In winter, water must be given very sparingly and the atmosphere of the house should be dry: the temperature need not exceed 50° during the night, and in very cold weather it may be allowed to fall 10° lower, provided a higher temperature be maintained during the day. As the season advances the plants should receive the full influence of the increasing warmth of the sun; and during hot weather they will be benefited by frequent syringeing over-head, which should be done in the evening: it is, however, necessary to guard against the soil becoming saturated, for the soft fibrous roots suffer if they continue in a wet state for any length of time. *J. S.*

Fig. 1. Plant, on a very reduced scale. 2. Flowering portion:—*nat. size.*

1.

2.

Reeve, Benham & Reeve, imp.

Tab. 4522.

LUVUNGA SCANDENS.

Scandent Luvunga.

Nat. Ord. Aurantiaceæ.—Monadelphia Octandria.

Gen. Char. Luvunga, *Hamilton.*—*Calyx* monophyllus, brevi-cylindraceus, truncatus, obscure 4-lobus. *Petala* 4, oblonga, carnosa, demum patenti-recurva. *Filamenta* 8, in tubum cylindraceum elongatum $\frac{3}{4}$ unitum. *Antheræ* lineares, incumbentes. *Germen* ovato-conicum, in receptaculum carnosum situm, 3-loculare; *ovulis* 2 in quoque loculo erectis axi insertis. *Stylus* cylindraceus. *Stigma* integrum, subglobosum. *Bacca* oblonga, subtriloba, 3-locularis, pulposa; *pulpa* resinosa odorifera. *Semen* solitarium, ovale, subacutum, integumento simplici viridescenti-venoso indutum. *Perispermum* 0. *Embryo* semini conformis, inversus. *Cotyledones* oblongæ, virides, carnosæ. *Plumula* biloba: *radicula* ovata, supera. *Roxb.*

Luvunga *scandens*; armata elata subscandens, foliis trifoliolatis foliolis lanceolato-acuminatis, floribus axillaribus fasciculatis.

Luvunga scandens. *Ham. in Wight, Ill. Ind. Bot. v.* 1. *p.* 138. *Walp. Repert. Bot. v.* 1. *p.* 382.

Limonia scandens. *Roxb. Fl. Ind. v.* 2. *p.* 380.

A delicately fragrant plant of the Orange family, native of Silhet and Chittagong, first described by Dr. Roxburgh as a *Limonia*, though that accurate botanist speaks with doubt of its belonging truly to that genus. Dr. Hamilton seems somewhere to have called it *Luvunga* (from its Sanscrit name, "*Luvunga-luta*"); and Dr. Wight has adopted that appellation, giving, as we have done, Roxburgh's excellent account of its fructification for the generic character. In cultivation, though attaining a height of nearly twenty feet, it hardly deserves to be called scandent. Spring is its time of flowering. We owe the possession of it in our stoves to Dr. Wallich.

Descr. A tall, lax-growing, but scarcely scandent *shrub*, with straggling *branches*, which are glabrous (as is every part of the plant), terete, bearing a rather long subulate decurved spine in the axil of the leaf. *Leaves* alternate, remote, 3-foliolate. *Petiole* two to three inches long. *Leaflets* five to six inches long, lanceolate, acuminate, entire, penninerved, pellucido-punc-

tate. *Flowers* axillary, fasciculate, in a dense short *raceme*, much resembling those of the Orange, and not less fragrant. *Calyx* monophyllous, forming a short cylinder, four-lobed at the mouth. *Petals* white, fleshy, oblong, four times as long as the calyx, at length patent and even reflexed. *Stamens* eight, united into a white fleshy *tube* for nearly their whole length, the apices free, and bearing each a linear or oblong-acuminate yellow *anther*. *Pistil* as long as the *stamens*. *Ovary* seated on a fleshy *torus*. *Style* columnar. *Stigma* large, globose. *W. J. H.*

Cult. Although this plant was introduced into the Royal Gardens in 1823, it never produced flowers till the present year; which may be accounted for by its now being allowed greater freedom of growth in the Palm-house. The kind of soil is not important: any light loam suits it, so that it be not retentive of water. As, from its somewhat climbing habit, the plant requires support, it may be set against a pillar or wall of the stove. It is increased by cuttings, placed in sand under a bell-glass, with bottom heat. *J. S.*

Fig. 1. Calyx, stamens, and pistil. 2. Pistil and torus:—*magnified.*

Fitch del et lith

Reeve Benham & Reeve imp

Tab. 4523.

IXORA salicifolia.

Willow-leaved Ixora.

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4325.)

Ixora *salicifolia*; foliis brevissime petiolatis elongato-lanceolatis tenui-acuminatis glabris, corymbo amplo denso hemisphærico, calycis laciniis ovatis acutis brevissimis, corollæ (aurantiacæ) tubo elongato gracili, laciniis ovato-lanceolatis acutis, staminibus brevibus, stylo vix exserto.

Ixora *salicifolia*. *De Cand. Prodr. v.* 4. *p.* 487.

Pavetta *salicifolia*. *Blume, Bijdr. no.* 951.

β. Floribus minoribus puniceis.

De Candolle, who, however, only knew this plant from a dried specimen communicated by Professor Blume, observes well of it, "Species insignis." The splendid specimens in a living state exhibited at the floral exhibitions of Chiswick, and those communicated to us for representation in the present work, bear him out in this eulogium. Nothing can be more beautiful than the large flame-coloured corymbs of the flowers, or more graceful than the copious willow-shaped leaves, often more than a span in length. It is a native of the mountains of Java; first noticed there and characterized by Blume, and introduced to Messrs. Veitch and Son's Nursery, by their collector, Mr. Thos. Lobb, from Mount Seribu in the same country. Two varieties are in cultivation with Messrs. Veitch: the one with the smallest flowers has them the most deeply coloured. Another *Ixora* is reported to be on sale in this country, quite different from this, under the name of *I. salicifolia*, which may be the true plant of Blume.

Descr. An erect, handsome-growing *shrub*, 2–3 feet high, with rather closely-placed opposite *leaves*, which are borne on extremely short *petioles*, almost sessile, narrow-lanceolate, very much acuminated, often a span long, penninerved, entire, glabrous, dark shining green above, paler beneath. *Stipules* ovate, acuminate, often

tinged with red. *Corymb* terminal, large,—when the flowers are fully expanded, forming a hemispherical head of deeply-coloured, aurantiaceous flowers, or in var. β. almost crimson. The *ovary* is short, hemispherical, crowned with the four small, ovate, acute *lobes* of the calyx. *Corolla* with a very long, slender, almost filiform *tube*: the *limb* of four, ovate or lanceolate-ovate, horizontally spreading, acute *lobes*. *Stamens* small, inserted at the mouth of the tube. *Style* scarcely exserted. *Stigma* three-lobed.

Cult. This showy *Ixora*, an abundant flowerer, even when only six inches high, requires a warm and moist stove, and a soil composed of about half loam and half peat, with a portion of sharp sand. In order to form a handsome plant, a young healthy one should be selected, and freely encouraged into quick growth by placing it in bottom-heat. As it increases in size it must be shifted into larger pots, which should be well drained, so that water and syringeing may be freely administered during the summer-season without the risk of the soil becoming saturated. It is increased by cuttings, which should be planted in sand under a bell-glass, and placed in bottom-heat. *J. S.*

Fig. 1. Calyx and pistil:—*magnified*. 2. Flower of var. β:—*natural size*.

Fitch, del et lith.

Reeve, Benham & Reeve, imp.

Tab. 4524.

RHODODENDRON JASMINIFLORUM.

Jessamine-flowered Rhododendron.

Nat. Ord. Ericaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4336.)

Rhododendron *jasminiflorum* ; glabrum, foliis brevi-petiolatis oblongo-obovatis acutis, umbella multiflora, calyce nano obscure 5-lobo, corollæ (albæ) hypocrateriformis tubo elongato stricto basi vix gibboso, limbo æquali lobis patentibus obovatis undulatis, ovario cylindraceo lepidoto, filamentis styloque pubescentibus.

At the first, and truly splendid, Exhibition of flowers at the Chiswick Gardens of the present year (1850), few plants excited greater attention among the visitors most distinguished for taste and judgment, than the one here figured, from the nursery of Messrs. Veitch, of Exeter. Many excelled it in splendour ; but the delicacy of form and colour of the flowers (white with a deep pink eye), and probably their resemblance to the favourite *Jessamine* (some compared them to the equally favourite *Stephanotis*), attracted general notice. So unlike, indeed, are they to the ordinary form of Rhododendron blossoms, that the 'Gardeners' Chronicle,' in recounting the prizes of the day, seemed to imply that this was probably no Rhododendron at all! If the author of the paragraph had referred to the figure of the Indian *R. Anthopogon*, figured in the 'Botanical Magazine,' Tab. 3947, he would see there as truly a salver-shaped corolla, and nearly as regular a limb : the more remarkable character is the great length and straightness of the tube. It is a native of Mount Ophir, Malacca ; elev. 5000 feet ; having been there discovered by Mr. Thomas Lobb, and transmitted to the nursery of Messrs. Veitch. It seems a ready flowerer. The specimen here figured was drawn in September of 1849, and still finer flowering plants were shown at the May Exhibition at Chiswick, in 1850.

Descr. A small *shrub*, as reared by Messrs. Veitch, one foot

and a half high, the *branches* bare of leaves below, and knotted where they had been inserted. *Leaves* crowded towards the upper part of the branches, lowermost ones subverticillate, on short *petioles*, obovato-oblong, rather acute, glabrous, nearly coriaceous. *Umbel* terminal, many-flowered. *Peduncles* 1-flowered, short, with small reddish *bracteas* at the base, and, as well as the very small, shallow, obscurely 5-lobed *calyx*, lepidote. *Corolla* salver-shaped, white, slightly tinged with rose below the limb; the *tube* two inches long, straight, scarcely gibbous at the base: the *limb* spreading, of five obovate wavy lobes, almost exactly equal. *Stamens* 10. *Filaments* filiform, downy, as long as the tube. *Anthers* red (forming a red eye, as seen at the mouth of the white corolla). *Ovary* oblong-cylindrical, lepidote, 5-celled, glandular at the base. *Style* rather shorter than the stamens, filiform, downy. *Stigma* dilated, obtuse, green.

Cult. Our only knowledge of this very distinct and singular species of *Rhododendron* is from having seen it exhibited during the past month at the London flower-shows. Judging from its habit and native locality, we infer that it will require to be treated as a warm greenhouse plant, and thrive in a sandy peat soil. *J. S.*

Fig. 1. Stamen. 2. Calyx and pistil. 3. Calyx and transverse section of the ovary.

Fitch del et lith.

Reeve, Benham & Reeve imp

Tab. 4525.

CALCEOLARIA Pavonii.

Pavon's Slipperwort.

Nat. Ord. Scrophularineæ.—Diandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4300.)

Calceolaria *Pavonii*; herbacea erecta elata undique viscoso-villosa, petiolis late alatis subdentatis, lamina ovata acuta basi truncata v. cordata margine duplicato-dentata utrinque villosa subtus pallida v. canescente, panicula ampla, laciniis calycinis maximis acuminatis, corollæ labio superiore calyce breviore, inferiore maximo obovato-orbiculato basi breviter contracto infra medium aperto, antherarum loculis oblongis. *Benth.*

Calceolaria Pavonii. *Benth. in De Cand. Prodr. v.* 10. *p.* 211.

Calceolaria perfoliata. *Ruiz et Pav. Fl. Per. et Chil. v.* 1. *p.* 15. *t.* 21. *f. a.* (*not Linn.*)

A rare and remarkably fine species of *Slipperwort*, figured by Ruiz and Pavon, as the *C. perfoliata* of Linnæus, from the original plant detected by them at Chincao and Muña in the Andes of Peru. By Mr. Mathews it was discovered at Chacapoyas. We are indebted for the specimen here represented, as well as for a living plant, to Messrs. Lucombe, Pince, & Co., of the Exeter Nursery, who observe, that when bedded out in the summer it makes a very striking appearance, with its noble and rather deep yellow flowers and ample foliage. Like the Calceolarias in general, it produces a long succession of blossoms, which renders the plant so eminently suited to the flower-border.

Descr. *Root* perennial. *Stem* herbaceous, one and a half to two feet and more high, a good deal branched, herbaceous, succulent, terete or but slightly angled, copiously clothed with patent or slightly deflexed hairs, green, sometimes tinged with purple and slightly viscose. *Leaves* rather large, often more than a span long, opposite and perfoliate with the very broadly winged base of the petiole; the *blade* ovate, acute or acuminate, often truncate or cordate at the base; the surface wrinkled with

copious *veins*, the margin, doubly toothed, often lobed towards the base, downy above, pale, almost white, and somewhat woolly beneath; the *wing* of the petiole, very broad at the base, is much toothed and foliaceous, and is decurrent, as it were, from the base of the blade of the leaf. *Panicle* ample. *Flowers* very large. *Calyx* of four deep, broadly ovate, acuminate, spreading, slightly dentate, hairy *lobes*, measuring two inches across. *Corolla* with *upper lip* inflexed, much shorter than the calyx; *lower lip* almost orbicular, very large, folded against the upper lip, but not so much as to exclude from view the deep blood-coloured spots in the inside.

Cult. This distinct species is of robust habit, and, like others of the genus, grows freely in the open border during the summer, but requires the protection of a pit or greenhouse during the winter. We have hardly yet had the opportunity of testing its merits as a bedding plant, but we fear its tall and rude growth may be somewhat against it for that purpose. Its handsome flowers make it well worthy of being grown as a show-plant for the greenhouse. It is readily increased by cuttings, which should be taken off about the end of the summer and placed under a hand-glass in a moderately warm place. *J. S.*

Fitch del et lith.

Reeve Benham & Reeve, imp.

Tab. 4526

EUGENIA Brasiliensis.

Brazilian Eugenia.

Nat. Ord. Myrtaceæ.—Icosandria Monogynia.

Gen. Char. Calycis tubus subrotundus, *limbus* ad ovarium usque 4-partitus. *Petala* tot quot calycis lobi. *Stamina* numerosa, libera. *Ovarium* 2–3-loculare; *loculis* pluriovulatis. *Bacca* subglobosa, calyce coronata, matura 1- rarius 2-locularis. *Semina* 1–2, subrotunda, grossa. *Embryo* pseudo-monocotyledoneus, *cotyledonibus* nempe crassissimis et omnino conferruminatis, *radicula* vix ac ne vix distincta brevissima.—Arbores *aut* frutices, *plerœque ex* insulis Caribæis *aut* America *calidiore orta. De Cand.*

Eugenia *Brasiliensis*; foliis petiolatis oblongo-obovatis apice obtuse attenuatis pellucido-punctatis glabris supra nitidis, floribus e gemmis seu ramulis junioribus squamosis, pedunculis ex axillis squamarum superiorum oppositis solitariis unifloris, calyce ebracteato lobis 4 obovato-oblongis obtusis tubo longioribus persistentibus ciliatis, petalis 4 obovatis, "fructu globoso-tetragono lævi nitido, lobis calycinis erectis accrescentibus coronato."

Eugenia Brasiliensis. *Lam. Dict. v.* 3. *p.* 203. *De Cand. Prodr. v.* 3. *p.* 267. *Cambess. in St. Hil. Fl. Brasil. Merid. v.* 2. *p.* 354. *t.* 152.

Myrtus Dombeyi. *Spreng. Syst. Veget. v.* 2. *p.* 485.

A handsome small tree, discovered by Dombey in Brazil, and since found by St. Hilaire and others in the province of Rio de Janeiro, where, we are informed, it is also cultivated and the fruit brought to market, and sold under the name of *Grumichama*. It is handsome in its foliage and in its copious snowy flowers, which latter are remarkable for having their origin upon the lower portions of young terminal branches, or, in other words, upon partially developed leaf-buds, springing from the axils of opposite scales below the leafy portion. In this state the young leaves are deep purple-brown, contrasting prettily with the dark green of the old foliage and the purewhite of the blossoms, which are produced in April.

Descr. A small *tree* with copious dark green foliage. *Leaves* petiolate, three to four or even five inches long, broadly oblong-ovate, somewhat attenuated at the apex, but blunt at the point,

minutely pellucido-punctate, dark and glossy above, paler beneath. From the apex of the branches arise clusters of gemmæ, which develope into branches leafy at the extremity, the rest of the branch furnished with opposite, oblong, membranaceous, concave *scales*: from one or two of the uppermost pairs of these scales the *peduncles* appear, an inch and a half or two inches long, single-flowered. *Calyx* with the tube oval-globose, having a few opposite hairs at the base: *limb* of four large, spreading, obtuse, ciliated segments. *Petals* white, longer than the sepals, obovate. *Stamens* numerous. *Style* as long as the stamens. *Fruit*, according to St. Hilaire, as large as a cherry, white or red, or black violet-coloured, esculent. *W. J. H.*

Cult. This species is an old inhabitant of the Royal Gardens. Having been kept for many years in a small pot it never produced flowers; but on being removed into the Palm-house, and shifted into a large pot, it grew vigorously, and in the spring of this year produced a profusion of flowers. It is now a handsome Laurel-like bush, six feet high. Light loam, mixed with a small quantity of leaf-mould, suits it; and, as it is what may be termed a thirsty plant, it requires to be well supplied with water during the spring and summer months. It increases by cuttings placed under a bell-glass, and plunged in bottom-heat. *J. S.*

Fig. 1. Calyx and ovary:—*magnified.*

Fitch del. et lith

Reeve Benham & Reeve, imp.

Tab. 4527.

DENDROBIUM Kingianum.

Captain King's Dendrobium.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4352.)

Dendrobium *Kingianum*; pseudo-bulbis ovatis in collum longum extensis apice bi- (quadri-) foliis, foliis ovalibus emarginatis, pedunculo terminali 2–3- (pluri-) floro, sepalis ovatis mento emarginato, petalis obovatis apiculatis duplo minoribus, labelli trilobi cuneati pubescentis laciniis lateralibus acutis intermedia paulo longiore transverse rhombea, angulis lateralibus rotundatis apiculi acutis, axi elevata trilineata apice tridentata. *Lindl.*

Dendrobium Kingianum. *Bidwill, in Lindl. Bot. Reg.* 1844. *Misc.* 18; *et in Bot. Reg. v.* 31. *t.* 61.

The Royal Gardens of Kew are indebted to our excellent friend Mr. Bidwill for specimens of this rare *Dendrobium*, which he detected in Australia, we presume in the interior, and which were sent to Europe in 1844. Dr. Lindley refers it to a group of *Dendrobium*, corresponding to the genus *Desmotrichum* of Blume, especially characterized as having "root-shaped, jointed, bulbiferous stems," but which he does not consider to be possessed of characters sufficient to constitute a genus.

Descr. *Pseudo-bulbs* clustered, jointed, oblong, attenuated upwards into a long stem-like neck, bearing two to four oblong subcoriaceous recurved *leaves*, emarginate at the apex. From the centre of these leaves the *peduncle* arises, about as long as the pseudo-bulb and leaves, and bearing from three to six *flowers* in one specimen. *Ovary* clavate, pedunculiform below. *Sepals* purple, ovate, the two lateral ones connate and decurrent with the base of the column into a long blunt or retuse spur, pale-coloured at the back, yellow at the apex. *Petals* much smaller than the sepals, of the same colour. *Lip* three-lobed, attenuated at the base and articulated on the apex of the spur, white streaked with purple and having three yellow *laminæ* on the

disc, side-lobes acute, terminal one nearly rhomboid, apiculate. *Column* short, white, very decurrent at the base. *Anther-case* hemispherical. *W. J. H.*

Cult. This species of *Dendrobium* is a native of New South Wales, beyond the tropic; it does not, therefore, require the high degree of temperature necessary for the cultivation of the numerous species which are natives of tropical Asia. It is epiphytal on trees, and is subject to long droughts. It thrives if potted in turfy peat, well-drained, and kept in the cool division of the Orchideous house. *J. S.*

Fig. 1. Column and lip :—*magnified.*

Fitch, del et lith.

Reeve, Benham & Reeve imp.

Tab. 4528.

HAKEA cucullata.

Cucullate-leaved Hakea.

Nat. Ord. Proteaceæ.—Tetrandria Monogynia.

Gen. Char. Perianthium tetraphyllum, irregulare, foliolis secundis, apicibus cavis staminiferis. *Antheræ* immersæ. *Glandula* hypogyna unica, dimidiata. *Ovarium* pedicellatum, dispermum. *Stigma* subobliquum, e basi dilatatum, mucronatum. *Folliculus* unilocularis, ligneus, pseudo-bivalvis, loculo excentrico. *Semina* ala apicis nucleo longiore. *Br.*

Hakea *cucullata*; erecta, ramis dense villosis, foliis cordatis seu reniformi-cordatis auctis subrepandis denticulatis reticulato-venosis, capsulis ecalcaratis.

Hakea cucullata. *Br. Prodr. Suppl. p.* 30. *Hook. Ic. Pl. t.* 441. *Meisn. in Lehm. Plant. Preiss. v.* 1. *p.* 260. *et v.* 2. *p.* 260.

Discovered by the late Mr. Baxter at King George's Sound, from whose specimens Mr. Brown described the species in the Supplement of his 'Prodromus,' and from whose specimens also the figure in 'Icones Plantarum,' above quoted, was taken. At that time only fruit-bearing plants were detected. Mr. Drummond has also found flowering individuals at the Swan River Settlement, and has sent seeds, from flowering plants of which our figure was taken at the Royal Gardens, in April 1850. Professor Meisner confounded *H. cucullata* with it in the 'Plantæ Preissianæ:'—probably its nearest affinity is the noble *H. Victoria* of Mr. Drummond's Journal, given in a late volume of the 'London Journal of Botany,' and of which there are living plants also at Kew.

Descr. Our plants of this constitute erect *shrubs*, four to five feet high, the *branches* terete, pale brown, very villous. *Leaves* coriaceous, slightly villous only near the base below, cordate, or reniform-cordate, sessile, large, spreading, concave, more so in the upper leaves, repand and waved and rather minutely toothed at the margin, glaucous green, distinctly reticulated both above and below. From the axils of the upper leaves the *flowers* appear in copious clusters: at first surrounded by imbricated deciduous *bracts*. *Pedicels* clavate, hairy at the base. *Perianth* red, of four unequal linear sepals, glabrous, the apex of each spathulate and bearing the *anther* in the hollow of the interior. *Ovary* linear. *Style* very long, twice as long as the longest sepals. *Stigma* conical-acuminate. *Fruit* (represented in the 'Icones Plantarum' above quoted) clustered, about an inch long, ovate, acuminated, woody, splitting into two thick, semiovate, woody *valves*, gibbous and unequal on the outside. *W. J. H.*

August 1st, 1850.

Cult. Before the introduction and high state of cultivation of the splendid flowering plants now annually exhibited in the vicinity of London, it was customary to estimate the value of public and private collections by the number and rarity of the species, without regard to the circumstance of their producing fine flowers. Perhaps no plants were in higher repute than those of the family to which this belongs, as is amply shown by the early volumes of the Botanical Magazine. Within the last twenty or thirty years, however, the cultivation of *Proteaceæ* has declined; the species have gradually disappeared from most of the private collections around London; and but few nurserymen now take interest in them. This change may be partly owing to the supposed difficulty of preserving them, for under certain circumstances the plants suddenly die, even when in vigorous health. In the Royal Gardens *Proteaceæ* have maintained their place, more especially those that are natives of Australia; and as there are some at this time between forty and fifty years of age, and others of a large size half that age, it may be inferred that *Proteaceæ* are not so short-lived in a state of cultivation as they are generally supposed to be. Within our recollection it was the common practice to grow them in some kind of light soil, usually peat. The hygrometric condition of such soil is easily affected by changes of the surrounding atmosphere; becoming quickly dry during hot weather, and apt to become sodden with moisture in winter, and the spongioles or rootlets of *Proteaceæ* are very sensitive to either extreme; the use of light soil, therefore, in our opinion, accounts for the frequent sudden death of plants of this kind. In the Botanical Magazine for 1836, at Tab. 3500, we have given our views on the cultivation of *Proteaceæ*. We use good yellow loam, to which, for small plants, we add a little sharp sand. In shifting or repotting a plant we make it a rule to keep the ball of roots a little elevated above the surface of the new mould, to prevent any superabundance of water from lodging round the base of the stem. In the winter care must be taken to give no more water than is required to keep the soil moderately moist, but in summer water may be given freely in the evening or early in the morning. It is important that the plants should be so placed that the sun's rays do not strike the sides of the pot. The species here figured, being a native of the Swan River Colony, requires to be treated as a greenhouse plant. It does not readily propagate by cuttings, but may be increased by grafting on any of the more common free-growing species. Imported seeds germinate freely. *J. S.*

Fig. 1. Flower:—*magnified.*

4529.

Fitch del et lith

Frederic Reeve, imp.

Tab. 4529.

STYLIDIUM saxifragoides.

Saxifrage-like Stylidium.

Nat. Ord. Stylidieæ.—Gynandria Diandria.

Gen. Char. Calyx bilabiatus. *Corolla* irregularis, 5-fida, lacinia quinta (*labello*) dissimili, minore, deflexa (raro porrecta), reliquis patentibus (raro geminatim cohærentibus). *Columna* reclinata, duplici flexura: *antheris* bilobis, lobis divaricatissimis; *stigmate* obtuso indiviso. *Capsula* bilocularis, dissepimento superne quandoque incompleto. *Br.*

Stylidium *saxifragoides*; dense cæspitosum, foliis radicalibus rosulatis copiosissimis linearibus acutis margine præcipue ciliato-scabris basi attenuatis apice piliferis, scapis glabris vix bracteatis, racemis floribusque breviter glanduloso-pilosis simplicibus, corollis luteis labello tuberculato.

Stylidium saxifragoides. *Lindl. Swan River Bot. p.* xxviii. *Sonder in Lehm. Plant. Preiss. p.* 374.

Stylidium assimile. *Benth. in Endl. Enum. Pl. Hugel. p.* 72 (*non R. Br.*), according to *Sonder*.

This charming greenhouse plant, raised from seeds from the Swan River Settlement, was sent by Messrs. Veitch and Sons of Exeter to the May Exhibition of the Horticultural Society for 1850, under the name of *S. ciliatum*. That plant, however, faithfully represented in our Tab. 3883, is a very different, though nearly allied species, with the panicle compound, and, as well as the scaly scape, clothed with long patent hairs, tipped with dark-coloured viscid glands, and with flowers not half the size of the present one. Sonder describes this as having the labellum inappendiculate, and perhaps he alludes to another plant; but the gland would probably escape his notice in the dried specimen.

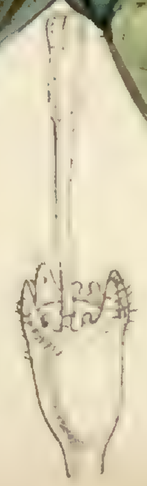
Descr. *Root* perennial, dividing at the crown so as to bear copious tufts of densely imbricated, spreading, rosulate, linear *leaves*, slightly incurved, yellow-green tinged with purple, tapering at the base, acute at the point, and there bearing a long hair or bristle; the margins especially, ciliato-scabrous. *Scapes* one or

more from the centre of each rosule of leaves, a span or more high, almost entirely destitute of bracteas, and quite glabrous (except above), and there, and upon the pedicels and ovary, calyx and outside of the corolla, are copious, short, glandular hairs. *Raceme*, in our specimens, entirely simple. *Pedicels* with two glandular, oblong, red *bracteas* above the middle. *Ovary* oblong, green, crowned with the oblong red lobes of the *calyx*. *Corolla* large (for the size of the plant), yellow; *style* strongly geniculated, red. *W. J. H.*

Cult. This belongs to an extensive genus, comprising about one hundred described species, which, with two or three exceptions, are all natives of New Holland and Van Diemen's Land, the greater number being found on the western extratropical coast of New Holland. As regards their habit and places of growth, they may be compared to species of several British genera; such as *Statice*, *Jasione*, *Phyteuma*, *Plantago*, *Samolus*, and even *Drosera*. This species is a native of Swan River, and must be treated as a greenhouse plant; it requires no more artificial heat than is necessary to protect it from frost, and, like many other small plants, it will thrive best when kept in a cool pit or frame; but care must be taken that it does not suffer from damp in winter. Light peat soil is found to suit it. *J. S.*

Fig. 1 and 2. Leaves. 3. Flower:—*magnified.*

1.



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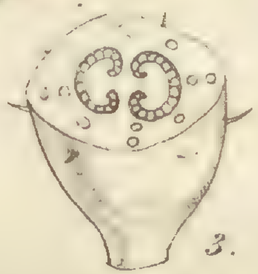


3.

Fitch del et lith.

Frederic Reeve imp

Tab. 4530.

CAMPYLOBOTRYS DISCOLOR.

Two-coloured Campylobotrys.

Nat. Ord. Rubiaceæ.—Tetrandria Monogynia.

Gen. Char. (Trib. Hedyotideæ.) *Calycis tubus* obovatus, cum ovario connatus; *limbus* 4-fidus, laciniis parvis linearibus obtusis erectis; inter lacinias glandulæ 2–3. *Corolla* supera hypocrateriformis; *tubus* brevis cylindraceus; *limbus* 4-partitus, laciniis inæqualibus oblongis obtusis patentibus tubo longioribus æstivatione erectis subimbricatis. *Stamina* 4, fauci inserta: *filamenta* brevissima: *antheræ* lineares, exsertæ. *Ovarium* tetragonum, carnosum, biloculare, disco epigyno carnoso operculiformi. *Ovula* in placentis carnosis, dissepimento utrinque inserta, numerosa, parva. *Fructus* ..... —Suffrutex *humilis* (Brasiliensis?) ramis *oppositis approximatis teretibus pubescentibus.* Folia *opposita, æqualia, ovata, plicato-penninervia, integerrima, sparsim pilosa, supra atro-viridia, pulcherrime velutino-nitida, subtus pallide viridia, purpureo-rubro tincta,* venis *prominentibus.* Stipulæ *interpetiolares, e lata basi subulatæ, evaginatæ.* Pedunculi *solitarii, axillares, rubri.* Flores *racemosi, secundi*; racemis *circinatis*; pedicellis *brevissimis,* calycisque tubo *viridibus, glabris,* limbi dentibus *pilosis, rubris*; *infra pedicellos glandulis bractealibus setisque lineatim transverse dispositis.* Corollæ *subcarnosæ, rubræ.*

Campylobotrys *discolor.*

Campylobotrys discolor. (*Hort. Paris.*)

Under the name here preserved we have received at the Royal Gardens of Kew, from the Paris Jardin des Plantes, the very beautiful plant now represented, accompanied by the information that it is a native of Bahia; while in a Belgian nursery catalogue it stands as a native of Mexico. We nowhere find such a name taken up by scientific botanists; and, on the other hand, we are unable to refer it satisfactorily to any published genus. It is treated as a stove-plant, and is remarkable for the lurid green yet satiny surface or velvety gloss of the upper side of the leaves, and the rich red-purple tints of the branches and under side of the foliage, and the still more pronounced red colour of the peduncles and flowers and teeth of the calyx. We have never seen the fruit. *W. J. H.*

Cult. We received this plant about six months ago, from the

Jardin des Plantes at Paris, and have no further knowledge respecting it, except that it "came from Bahia." We have treated it as a stove plant, and find that it grows freely if potted in light peat-soil, with a little leaf-mould. The pot is plunged in a bed of moist *Sphagnum* sods, on a front shelf, where, with other coloured and variegated-leaved plants, it forms one of an interesting group. It produces lateral branches, which, taken off as cuttings, root readily when placed under a bell-glass and treated in the usual way. *J. S.*

Fig. 1. Flower. 2. Pistil. 3. Transverse section of the ovary.

1.

2.

F. P. del et lith.

Frederic Reeve, imp.

Tab. 4531.

HYPOCYRTA gracilis.

Slender Hypocyrta.

Nat. Ord. Gesneraceæ.—Didynamia Angiospermia.

Gen. Char. *Calyx* liber, profunde quinquepartitus. *Corolla* infera, tubulosa, basi postice gibba, tubo antice ventricoso, limbo quinquelobo aut quinquedentato subæquali. *Stamina* 4, didynama, cum quinti postici rudimento ex ima basi tubi. *Antheræ* per paria cohærentes. *Annulus* hypogynus et glandula postica. *Bacca* globosa, succosa (colorata), unilocularis, *seminibus* pluribus in placentis duabus parietalibus bilobis. *Mart.*

Hypocyrta *gracilis*; ramis inordinatim adscendentibus passim radicantibus laxis, epidermide nitida, foliis breviter petiolatis ovatis acutis margine passim subundulato-denticulatis, pedunculis axillaribus solitariis aut geminis, corollis subcampanulato-tubulosis, lobis rotundatis patentibus. *Mart.*

Hypocyrta gracilis. *Mart. Nov. Gen. et Sp. Plant. Brazil. v.* 3. *p.* 50. *t.* 219.

A very pretty creeping Gesneraceous stove-plant, imported from the Organ Mountains, Brazil, by Messrs. Backhouse of the York Nursery, and obligingly sent by them in April 1850. There can be little doubt of the plant being identical with the *Hypocyrta* described and figured by Dr. von Martius, *l.c.*, though his figure, made probably from dried specimens shrunk in the act of drying, gives the appearance of a more *slender* plant than ours is:—even ours has a much less robust habit than the other species of *Hypocyrta* described by Von Martius. That author constitutes two divisions of his five species: the one "*Codonanthe*, corollæ tubo subcampanulato inque latere antico parum ventricosiore, limbo latiusculo," and "*Oncogastra*, tubo deorsum valde gibboso-ventricoso, limbo breviter dentato erecto." Our plant belongs to the first section.

Descr. *Plant* minutely pubescent, evidently procumbent and creeping, although, as Martius describes it, sometimes bearing ascending shoots. *Stem* branched, terete, purplish-brown, rooting from below the insertion of the leaves. *Leaves* on short *petioles*, opposite, thick, fleshy, ovate, subacute, dark green and

slightly concave above, pale and often blotched with red and convex beneath. *Flowers* on short red peduncles, solitary or in pairs, single-flowered. *Calyx* of five, deep, linear-lanceolate segments, red at the base. *Corolla* moderately large, cream-white, spotted with orange on the underside of the tube within, campanulate-infundibuliform : tube decurved, and again curved upward at the mouth ; *limb* of five, nearly equal, rounded segments. *Stamens* shorter than the tube. *Anthers* united in pairs. *Ovary* ovate, hairy, with a large gland at the base of the back. *Style* shorter than the stamens : *stigma* obtuse. *W. J. H.*

Cult. A soft-wooded suffruticose plant, of a trailing scandent habit, emitting roots from below the axils of the leaves, and growing as an epiphyte on trees in the moist forests of Tropical America. It should be kept in such an atmosphere as that appropriate for the cultivation of tropical Orchids, and, if there is sufficient accommodation, it may be allowed to grow in a natural manner over any elevated surface, covered with turfy sods, kept moist ; or may be planted in a pot or basket filled with loose turfy soil and suspended from the roof. *J. S.*

Fig. 1. Stamen. 2. Pistil and hypogynous gland :—*magnified.*

1.

2

F. [illegible] del. et Lith.

Frederic Rew

Tab. 4532.

BOLBOPHYLLUM Lobbii.

Mr. Lobb's Bolbophyllum.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. (*Vide supra*, Tab. 4166.)

Bolbophyllum *Lobbii*; folio petiolato obovato-oblongo coriaceo, pedunculo nudo unifloro folio breviore basi subglanduloso e bracteis squamæformibus cucullatis falcatis subglandulosis erumpente, sepalis oblongis acutis lateralibus falcatis, petalis conformibus minoribus reflexis, labello longe unguiculato cordato ovato acuto canaliculato apice recurvo. *Lindl.*

Bolbophyllum *Lobbii*. *Lindl. in Bot. Reg.* 1847, under *t.* 29.

One of the many fine things sent from Java to Messrs. Veitch of Exeter, by their collector, Mr. Thomas Lobb. "How fine a plant of its kind this is," says Dr. Lindley, in the Bot. Reg. l. c., "may be surmised, by its having been taken for a *Cœlogyne*: the flowers are full four inches across, yellow, shaded with cinnamon, spotted with light brown, and speckled outside with brown-purple:—we know of no species of the genus comparable to it for beauty." Our drawing was made from the plant of Messrs. Veitch, after it had gratified the public at the May Exhibition of the Chiswick Gardens for 1850.

Descr. *Pseudo-bulbs* ovate, smooth, green, nearly as large as a pigeon's egg, partially sheathed with a ragged membrane, and springing from a scaly creeping caudex, terminated by an oblong petiolated coriaceous solitary *leaf*. *Scape* arising one from the side of each pseudo-bulb, yellowish, spotted with brown, shorter than the leaf, its base sheathed with imbricated, convex, spotted scales. *Flowers* large, solitary, spreading. *Sepals* lanceolate, acuminated, deep yellow, the upper one externally marked with purple spots running in lines; the lateral ones falcate, streaked and clouded with purple. *Petals* resembling the upper sepal, but smaller and streaked with purple lines, reflexo-patent. *Lip* cordato-ovate, acuminate, reflexed, yellow, with minute orange dots. *Column* short, broad upwards, deep yellow, sprinkled with orange. *Anther-case* hemisphærical. *W. J. H.*

September 1st, 1850.

Cult. This, like the rest of the numerous species of *Bolbophyllum*, is a tropical epiphyte, and requires to be kept in the warm division of the Orchid-house. It grows and flowers freely on a block of wood, suspended from the roof of the house, and having a piece of Sphagnum-moss attached. In winter an excess of moisture, either in the atmosphere of the house or in the moss or block of wood, is prejudicial; and in summer the plant must be shaded from the mid-day sun.

Fig. 1. Column and lip. 2. Pollen-masses :—*magnified.*

2.

Tab. 4533.

MEDINILLA MAGNIFICA.

Magnificent Medinilla.

Nat. Ord. Melastomaceæ.—Decandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4321.)

Medinilla *magnifica* (§ Sarcoplacuntia); glabra, ramis compressis tetrapteris ad nodos setosis, foliis amplis oppositis coriaceis glabris sessilibus obovato-oblongis cordatis subamplexicaulibus cuspidatis infra medium triplinerviis pone basin pinnato-costatis, paniculis terminalibus oblongis pendulis, ramis verticillatis, bracteis maximis corollatis quaternatis multinerviis deciduis, floribus decandris. *Lindl. et Paxt.*

Medinilla magnifica. *Lindl. et Paxt. Fl. Gard. v.* 1. *t.* 12.

Medinilla bracteata. *Hort. Veitch*, (*non Blume.*)

This fine plant, truly deserving the name of *magnifica*, when first exhibited by Messrs. Veitch at the early spring meeting of the Horticultural Society (where a large medal was awarded to it), bore the name of *M. bracteata*, given to it probably by Mr. Veitch, or by his collector Mr. Thomas Lobb, under an impression that it would prove to be the plant so named of Java, by Blume, who afterwards, however, referred that plant to a new genus, *Dactyliote*. A slight comparison, however, with the description may show that it has nothing to do with that plant, and it is by mistake that it is stated by Lindley and Paxton to be a native of Java at all. The present species was detected at Manilla, and sent thence to Messrs. Veitch's nursery, and proves to be one of the most showy and ornamental plants that has ever been imported. We thought highly of *Medinilla speciosa* (vide supra, Tab. 4321); but the leaves are here much finer (a foot long), the panicle a foot and a half long, the flowers far more numerous, and the noble and delicately-coloured bracts add greatly to the charms of the shrub. Its most beautiful state is, perhaps, before the full perfection of the flowers, when the large imbricated bracts begin to separate, and allow the buds to be partially seen. As the expansion of the blossoms advances, the upper bracts fall off, but the lower ones remain and become

reflexed. It is a stove-plant, and Messrs. Veitch describe it as of easy culture, loving moisture when in a state of growth, and flowering copiously when only two or three feet high.

Descr. Evergreen, erect (may it not eventually become scandent?), everywhere glabrous, with *branches* compressed and four-winged, bearing tufts of bristles at the joints. *Leaves* very large, opposite, coriaceous, broadly oblong, cordate and semiamplexicaul at the base, triple-nerved below the middle, and the rest penninerved, dark green above, pale beneath. *Panicle* large, terminal, eighteen inches and more long, when in bud the whole clothed with densely imbricated, large, rose-coloured *bracteas*: these latter are gradually deciduous, the lower and larger ones remaining and becoming reflexed; the lowermost tinged with green. *Branches* of the *panicle* whorled, much divided. *Flowers* very abundant, deep rose-colour, in form and structure almost exactly resembling those of *M. speciosa*, already referred to. *W. J. H.*

Cult. This singular plant, being a native of the Philippines, requires to be treated as a stove-plant. It grows and flowers freely if planted in a mixture of loam and peat. The pots must be well drained, so as to allow water to be liberally given during the season of growth, without the risk of the soil becoming sodden; it should also be frequently syringed. It is readily increased by cuttings placed under a bell-glass, and plunged in bottom heat. *J. S.*

Fig. 1. Stamen. 2. Pistil and calyx:—*magnified.*

Fitch del et lith.

F. Reeve, imp.

Tab. 4534.

PORTLANDIA platantha.

Broad-flowered Portlandia.

Nat. Ord. Rubiaceæ.—Pentandria Monogynia.

Gen. Char. *Calycis tubus* obovatus, 5-nervius, limbus 5-partitus, lobis oblongis foliaceis magnis. *Corolla* magna, infundibuliformis, tubo brevi, fauce ampla obconica, limbo obtuse 5-lobo. *Stamina* 5, imæ fauci inserta; *antheræ* longæ, semi-exsertæ. *Stigma* indivisum. *Capsula* obovata aut suboblonga, nervis costata, apice coronata, retusa, bilocularis, valvis apice dehiscentibus. *Placentæ* coriaceæ, centrales. *Semina* plurima, elliptica, compressiuscula, punctis elevatis scabra.—Arbusculæ Americanæ *glabræ*. Folia *breve petiolata*, *nitida*. Stipulæ *latæ*, *triangulares*. Pedunculi *axillares*, *breves*, 1–3-*flori*. Flores *albidi*, *ampli*. *De Cand.*

Portlandia *platantha*; foliis late obovato-ellipticis subsessilibus, floribus axillaribus solitariis, calycis lobis lanceolatis, corollæ late infundibuliformis tubo basi breviter attenuato, staminibus inclusis, stigmate profunde bipartito.

From the rich collection of Messrs. Lucombe, Pince, and Co., Exeter Nursery, who received it, and have cultivated it in the stove, under the name of "*Portlandia grandiflora*, fine variety;" but they very justly remark to me, that both in its foliage and in the flowers it differs considerably from that species, as may be at once seen by comparing our present figure with the true *P. grandiflora*, given at Tab. 286 of the 'Botanical Magazine.' "It flowers," say Messrs. Lucombe and Pince, "in a very dwarf state, and is almost always in blossom," an observation confirmed by the continual flowering, during the summer of 1849, of a small plant not more than a foot and a half high, which they were so good as to send to the Royal Gardens, and from which our figure was taken in July 1850.

Descr. Our plant is a low *shrub*, a foot and a half high, erect, branched, glabrous. *Leaves* opposite, nearly sessile, elliptical-obovate, acute, evergreen, subcoriaceous, full glossy green, everywhere entire, penninerved. *Stipules* broadly triangular, obtuse. *Pedicels* very short, axillary, solitary, often opposite. *Ovary* elongated, 4-angled, 2-celled; *cells* with many ovules. *Limb* of the calyx of four spreading, leafy, lanceolate

lobes. *Corolla* white, not more than half the length of that of *P. grandiflora*, broadly infundibuliform, approaching to campanulate, 5-ribbed, the base as much contracted, part of the tube very short. *Limb* of five spreading ovate lobes, their margins revolute. *Stamen* and *style* included. *Filaments* downy in their lower half. *Anthers* linear. *Stigma* deeply bipartite; the branches linear. *W. J. H.*

Cult. A tropical shrub, with fine glossy leaves and showy white flowers, which latter are produced on plants when not more than two feet in height. It is, therefore, worthy of a place in every collection of woody stove-plants. It grows freely in a mixture of loam and leaf-mould or peat soil. It must be kept in a moist tropical stove, the necessary precautions of watering and shading during clear summer sunshine being carefully attended to. It is propagated by cuttings placed under a bell-glass, and plunged in moist bottom-heat. *J. S.*

Fig. 1. Stamen. 2. Pistil. Fig. 3. Ovary cut through transversely :—*magnified*.

Fitch del et lith.

F. Reeve, imp.

Tab. 4535.

NYMPHÆA micrantha.

Small-flowered proliferous Water-Lily.

Nat. Ord. Nymphæaceæ.—Polyandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4257.)

Nymphæa *micrantha*; foliis parvis rotundatis cordiformibus peltatis integerrimis petiolatis, petiolis longissimis gracilibus, lobis divaricatis acuminatis subtus rubescentibus violaceo-punctatis superne glabris pallide viridibus inter lobos sæpius bulbiferis, stigmatibus 15 subsessilibus radiatis. *Guillem. et Perott.* Nymphæa micrantha. *Guillem. et Perott. Fl. Seneg. Tent. p.* 16. *Walp. Reperl. Bot. v.* 1. *p.* 107.

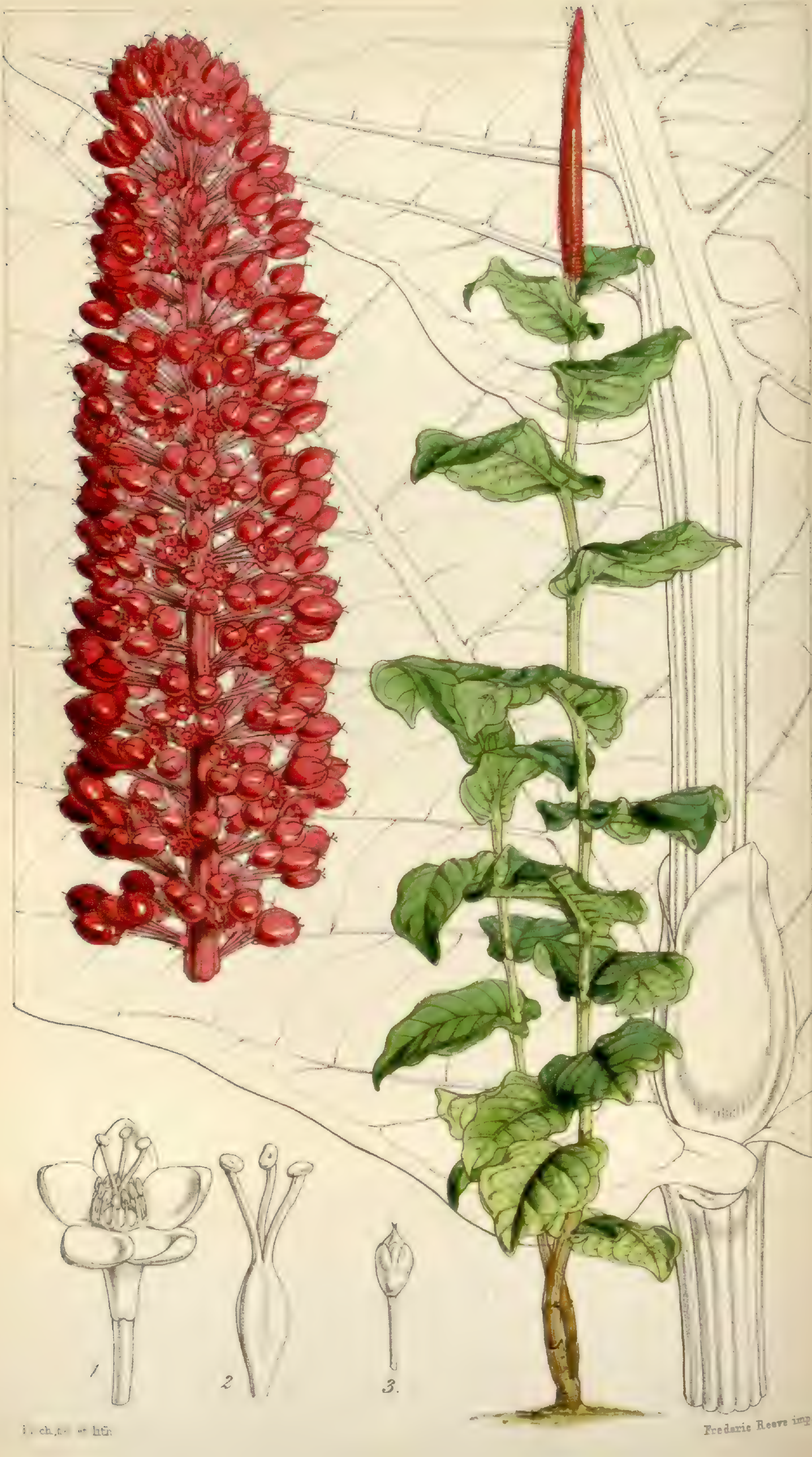
The very pretty Water-Lily, here represented, was obligingly communicated from the Tropical Aquarium of E. Silvester, Esq., the successful cultivator of *Nymphæaceæ* at North Hall, Chorley, Lancashire, in August 1850. It was received by him from Chatsworth, but it appears to have been imported by Lord Derby, from the River Gambia, to Knowsley Gardens. The long acuminated points of the leaves, and the viviparous axils of the lobes, are its most striking character; and in these two important particulars, as well as in some others, this species agrees with a Senegambian one to which I have referred it, viz., the *N. micrantha* of Guillemin and Perottet. If it does not coincide in all points—such as the number of stigmatic rays—it must be remembered that aquatic plants are very variable, and we must not lay too much stress on differences of that kind. It is true the authors describe the flowers as blue, or pale blue, but native authentic specimens in my herbarium appear to be white.

Descr. The *Petioles* and *Scapes* appear to be both much elongated (influenced, probably, by the depth of water in which they have grown), tinged with red, terete, glabrous. *Leaves* also quite glabrous, elliptic, rotundate in outline, partly entire, partly irregularly toothed, the lower portion cut into two deep, much acuminated, moderately spreading lobes, at the sinus of which,

as it were from the top of the petiole, gemmæ, or little bulbs, appear and develope themselves into young plants! The underside of the leaf is pale green, tinged with pale purplish-brown and minutely dotted. *Flowers* smaller than our common White Water-Lily, the size of *N. stellata*. *Calyx* of four sepals, pale yellow-green, and the numerous white or whitish *petals* are lanceolate and very acute, not gradually passing into stamens, though the outer stamens are more petaloid than the inner ones. *Stigma* in our plant with eleven incurved obtuse yellow rays. *W. J. H.*

Cult. This Water-Lily, being a native of Western Africa, requires to be grown in a warm stove, and will thrive if treated in the way mentioned for *Nymphæa ampla*, at Tab. 4469. This species is remarkable from the circumstance of its producing a viviparous bud at the sinus of the leaf on the upper surface, which bud ultimately becomes a separate plant. *J. S.*

Fig. 1. Outer stamen. 2. Pistil:—*magnified*.



1.

2

3.

Fredaric Reeve imp.

Tab. 4536.

COCCOLOBA macrophylla.

Large-leaved Sea-side Grape.

Nat. Ord. Polygoneæ.—Octandria (v. Decandria) Trigynia.

Gen. Char. *Flores* hermaphroditi. *Perigonium* subcoloratum, quinquepartitum, subæquale, demum increscens. *Stamina* 8, perigonii laciniis exterioribus geminatim, interioribus singulatim, opposita, uno inter interiora contigua sito: filamenta subulata, basi cohærentia; antheræ globoso-didymæ, versatiles. *Ovarium* trigonum, basi cum perigonio connatum, uniloculare. *Ovulum* unicum, basilare, orthotropum. *Styli* tres, distincti; stigmatibus capitatis. *Caryopsis* triquetra, spongiosa, perigonio baccato tecta partimque connata. *Semen* triquetrum, erectum. *Embryo* in axi albuminis farinacei antitropus; *cotyledonibus* latiusculis undulatis; *radicula* supera.—Arbores Americanæ *tropicæ*; ramis *vaginatis*, foliis *alternis sessilibus v. pedicellatis ochreis herbaceis oblique truncatis*, racemis *v. spicis oppositifoliis elongatis, bracteis ochreis conformibus.* *Endl.*

Coccoloba *macrophylla*; subarborea elata erecta glabra stricta, caule subsimplici sulcato, foliis cordato-ovatis acutis amplis sessilibus semiamplexicaulibus reticulatim venosis bullato-rugosis ochreis magnis inflatis vaginatis membranaceis demum fuscis, racemo denso spicato elongato simplici terminali, floribus copiosissimis (rubris), perianthiis 4–6-lobis, staminibus 8–12.

Coccoloba macrantha, *Desf.* (*Steud. Nomencl. Bot.*)

One of the most striking plants which has flowered in the great stove of the Royal Gardens during the year 1850, is that here represented, of which plants were long received from Paris, under the name of *Coccoloba macrophylla* of Desfontaines, a name which we can find nowhere published save in the two editions of Steudel's valuable Nomenclator; but there its native locality is marked as unknown. This is probably South America, where the maximum of the species are to be found. The name is far from appropriate, for the leaves yield greatly in size to the *C. pubescens* (Bot. Mag. t. 3166), the latter being three or four times the size of the present. Our plant, however, equals the *pubescens* in height (our largest plant being twenty-three feet high): it tapers gracefully upwards, is leafy all the way up, and terminated at the top by a dense compact thick club-shaped raceme of flowers, of which the rachis, pedicels, and flowers

are of the richest scarlet. This raceme continued in great beauty for two months, and when looked down upon from the gallery above, backed as it was by dark-green foliage, it presented a beautiful object. The drawing was made in July.

Descr. A subarboreous plant, with simple or scarcely divided, sulcated, erect *stems*, twenty to thirty feet high; leafy from below to the top. *Leaves* alternate, distant, dark green, a foot or more long, horizontally patent, cordato-ovate, semiamplexicaul, sessile, acute or acuminate, strongly nerved, wrinkled and reticulated, subbullate. *Raceme* terminal, subsessile, erect, two or more feet long, the *flowers* so numerous and dense that they appear to form a compact cylindrical *spike*; every part of a rich scarlet colour, save the *stigmas*, which are yellow. *Pedicels* in clusters. *Perianth* articulated on the pedicel; *tube* funnel-shaped; *limb* cut into 4–6 rounded concave lobes. *Stamens* 8–12, monadelphous below. *Anthers* cordate, subapiculate. *Ovary* oblong-rhomboid, triquetrous, red. *Styles* 3. *Stigmas* capitate. *Fruit* baccate, red. *W. J. H.*

Cult. The genera *Coccoloba*, *Triplaris*, and *Podoptera* are the tropical representatives of the Order *Polygoneæ*, and may be viewed as examples of the genera *Rheum*, *Rumex*, and *Polygonum*, taking the form of trees or shrubs. They are natives of the West Indies and tropical America, and often attain a considerable height. They generally have large entire coriaceous leaves, and bear spikes or racemes of flowers, succeeded by bunches of berry-like fruit, which, as many of the species inhabit the shores, have given rise to the English name, 'sea-side grapes.' The present species appears to be a tall-growing tree: our plant is now ten feet high, and, with its broad stiff leaves and long erect spike of red flowers, has a very striking appearance. It requires to be kept in the stove, grows freely in light loam, and may be increased by cuttings treated in the usual way for tropical plants of like nature. *J. S.*

Fig. 1. Flower. 2. Pistil. 3. Young fruit:—*magnified*. 4. Reduced representation of an entire plant. (The rest of the natural size.)

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3.

1.

Fitch, del et lith.

Frederic Reeve, imp.

Tab. 4537.

SPATHODEA lævis.

Smooth-leaved Spathodea.

Nat. Ord. Bignoniaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx spathaceus, junior clausus, demum hinc longitudinaliter fissus, inde dentatus seu integer. *Corolla* subinfundibuliformis, limbo 5-fido parum inæquali. *Stamina* 4, didynama, cum 5° sterili. *Antheræ* loculis discretis. *Stigma* bilamellatum. *Capsula* siliquæformis, bilocularis, loculicido-dehiscens, ex septo suberoso aut coriaceo valvis contrario fere prima fronte 4-locularis. *Semina* suberosa, membranaceo-alata, septo applicata, nec in foveis immersa.—Arbores *aut* frutices *æquinoctiales, sæpe scandentes.* Folia *opposita, rarius alterna, simplicia, conjugata, digitata aut impari-pinnata.* Flores *terminales, sæpius paniculati. De Cand.*

Spathodea *lævis*; arborea glabra, foliis alternis impari-pinnatis 4–6-jugis supremis ternatim verticillatis, foliolis ovatis acuminatis inæquilateris grosse serratis, racemis terminalibus corymbosis, calyce appresso corollisque externe glandulosis, corollæ infundibuliformis lobis inæqualibus rotundatis crispatis.

Spathodea lævis. *Beauv. Fl. d'Oware et de Benin. v.* 1. *p.* 48. *t.* 29. *De Cand. Prodr. v.* 9. *p.* 208.

A very fine Bignoniaceous plant, our first knowledge of which was from Messrs. Lucombe, Pince, and Co., who sent a flowering specimen in June 1850, from a plant they imported from Sierra Leone. The same species has since flowered in the stove of the Royal Gardens of Kew, our plant having been raised from seed from the same country. Imperfect as are the figure and description of *Spathodea lævis* in Palisot de Beauvois above quoted, I am yet of opinion I am correct in referring it to that plant. If by the term "lævis" applied to the species it is meant that there are no glands on the calyx or corolla, I may observe, that however obscure on the *dried* specimens (from which M. de Beauvois' drawing and character were derived), they are apparent enough on the living plant.

Descr. Our plant of the *Spathodea lævis* is sixteen feet high; but it flowers when much smaller with Messrs. Lucombe and Pince. Its *stem* is woody, but soft. The *leaves* are alternate, except those below the inflorescence, which are often ternately

whorled, all of them impari-pinnate, with from four to six pair of opposite, ovate, acuminate, coarsely serrated, glabrous, sessile *leaflets*. *Panicle* terminal, corymbose, with numerous large *flowers*. *Calyx* green, tipped with red, spathaceous, subcylindrical, close-pressed to the tube of the calyx, split open more than half-way down on one side, striated, with several dark-coloured *glands* near the base, irregularly toothed at the apex: *teeth* small, three to five. *Corolla* campanulato-infundibuliform, white, delicately spotted and streaked with rose; *tube* widening upwards: *limb* obscurely two-lipped; upper lip of two rounded lobes; lower of three similar ones, but larger and more spreading; all slightly waved. *Stamens* four with rudiment of fifth. *Style* included. *Anthers* oval. *Ovary* cylindrical, narrow, arising from a five-lobed *gland* or *disk*. *Style* geniculated on the ovary. *Stigma* bilamellate. *W. J. H.*

Cult. This is a tropical tree of robust growth, requiring the temperature of the stove, and growing freely in light loam. It is propagated by cuttings planted under a bell-glass in white sand, and plunged in bottom-heat. *J. S.*

Fig. 1. Calyx and pistil. 2. Stamens. 3. Pistil and glandular disk:—*magnified.*

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Tab. 4538.

STYLIDIUM MUCRONIFOLIUM.

Bristle-pointed Stylidium.

Nat. Ord. Stylidieæ.—Gynandria Diandria.

Gen. Char. (*Vide supra*, Tab. 4529.)

Stylidium (§ Nitrangium) *mucronifolium*; caulibus brevibus inferne ramosis, foliis glabris lineari-subulatis setaceo-mucronatis, scapis vel pedunculis terminalibus nudis superne paniculaque glanduloso-pilosis, corollis luteis aurantiaco-pictis, labello utrinque appendiculato, ovario cylindraceo-elongato.

Stylidium mucronifolium. *Sond. in Plant. Preiss. v.* 1. *p.* 383.

Raised by Messrs. Lucombe and Pince, from Swan River seeds, and communicated to us by that firm under the name here adopted, and by which is doubtless intended the plant so called by Sonder, with which, however, it does not wholly agree, for neither is the labellum in our plant "inappendiculate," nor can the leaves be said to be "radical." The first character is, indeed, easily overlooked in the dried plant, from which Sonder was likely to have drawn up his description; and with regard to the latter, tufted rosules of apparently radical leaves do, in several *Stylidia*, elongate into real leafy stems or branches. Again, the nearest natural allies of our plant are unquestionably *S. ciliatum*, Lindl. (Bot. Mag. t. 3883), and *S. saxifragoides*, Lindl. (Bot. Mag. t. 4529); but Sonder has separated them by nearly thirty species; the two just mentioned belonging to the section *Tolypangium*, Endl., our present plant to the § *Nitrangium*, Endl.:—two groups only distinguishable by the more or less elongated ovary or capsule—assuredly a very artificial character. Our species is very pretty and produces its copious bright tufts of flowers in August.

Descr. *Roots* wiry, brown. *Stems* in our plant tufted, two to three inches long, copiously leafy. *Leaves* glabrous, patent, linear-subulate, broader at the base, tipped at the point with a setaceous mucro. *Peduncles*, rather than scapes, terminal, solitary on each branch, a span high, above, and the pedicels

and calyx clothed with slender hairs tipped with glands, so delicate as to be scarcely visible to the naked eye. *Panicle* subrotund or oval, many-flowered, rather compact. *Corolla* rather bright yellow, with zigzag orange lines round the mouth. *Ovary* or *capsule* much elongated, slender, cylindrical. *W. J. H.*

Cult. The present species of *Stylidium*, being analogous in habit to *S. saxifragoides*, figured at Tab. 4529, requires the same treatment as there mentioned. In summer these small weak plants should be placed in a situation where they may be maintained in a moderately moist state, without having daily recourse to the water-pot; and in winter they should be placed in a dry airy place, taking care in damp weather that no water lodges amongst the fascicles of leaves, for when this happens the plant is liable to be destroyed. *J. S.*

Fig. 1. Flower. 2. Front view of do. 3. Leaf:—*magnified.*

Fitch del et lith.

Frederic Reeve, imp.

Tab. 4539.

GORDONIA Javanica.

Javanese Entire-leaved Gordonia.

Nat. Ord. Ternstrœmiaceæ.—Polyandria Monogynia.

Gen. Char. Calyx persistens, nudus v. decidue bracteolatus, pentaphyllus, *foliolis* imbricatis, rotundatis, concavis, subæqualibus. *Corollæ* petala 5, hypogyna, calycis foliolis alterna, basi subcoalita, obovata v. obcordata, æstivatione imbricata. *Stamina* plurima, hypogyna, pluriseriata, petalorum basibus adhærentia; filamenta filiformia, libera v. inferne in fasciculos quinque subcoalita, antheræ introrsæ, biloculares, oblongæ, basi v. supra basim affixæ, erectæ v. versatiles, longitudinaliter dehiscentes. *Ovarium* liberum, quadri-quinqueloculare. *Ovula* in loculis 3–5, angulo centrali biseriatim inserta, pendula. *Stylus* simplex, *stigma* quinquefidum. *Capsula* ovoidea v. subglobosa, quadri-quinquelocularis, loculicide quadri-quinquevalvis, *valvis* lignosis, medio septa inferne columnæ seminiferæ abbreviatæ cohærentia gerentibus. *Semina* in loculis 2–4, compressa, biseriatim pendula, imbricata, superne in alam membranaceam, oblongam, obtusam producta. *Embryo* exalbuminosus, rectus; *cotyledonibus* ovatis, longitudinaliter plicatis; *radicula* brevi, supera.—Frutices *in Americæ borealis et Asiæ tropicæ et subtropicæ alpibus indigeni;* foliis *alternis, breve petiolatis, coriaceis, integerrimis v. crenatis;* pedunculis *axillaribus, solitariis, unifloris. Endl.*

Gordonia *Javanica*; foliis breviter petiolatis oblongo-lanceolatis acuminatis glabris integerrimis penninerviis, pedunculis solitariis axillaribus unifloris folio brevioribus sub calycem bi-tri-deciduo-bracteato, bracteis spathulatis, calycis sepalis ovali-ellipticis concavis parce hirsutis, ovario hirsuto 5-loculari, stigmatis lobis rotundatis subfoliaceis, capsula pisiformi semi-5-valvi.

Gordonia Javanica. *Hort. Rollison.*

Our Garden is indebted to Messrs. Rollison, of Tooting, for the plant of which a specimen is here figured; and, not being able to discover any published species to which it can be referred, we retain Messrs. Rollison's name. It was discovered by their collector in Java, probably in the mountains; and has much the general habit of *Thea* or *Camellia,* when its blossoms appear, in August and September.

Descr. Our plant is about two feet high, branched, and generally glabrous. *Branches* terete. *Leaves* alternate, elliptical-lanceolate, coriaceous, evergreen, acuminated, entire, penninerved, below tapering into a short *petiole. Peduncles* solitary, axillary, single-flowered, from the base of most of the upper

leaves, and shorter than the leaves, erect, bearing two or three deciduous, spathulate, green bracteas below the calyx. *Calyx* of five very concave, rotundato-elliptical, erect, slightly hairy sepals. *Petals* five, obovate, white, spreading, obliquely twisted. *Stamens* very numerous. *Ovary* globose, obscurely five-lobed, five-celled, hairy. *Style* columnar. *Stigma* peltate, of five, large, rounded, somewhat leafy, rays or lobes, the centre umbilicated. *Fruit* the size of a large garden-pea, globose, depressed at the top, half five-valved, woody. *W. J. H.*

Cult. A neat evergreen tea-like shrub, a native of Java, which flowers freely when of small size. Not being aware of its locality, we have treated it as a stove plant; but, judging from the nature of many of its allies, we may be right in presuming that it is from an elevated and temperate region, and if so, it would probably succeed in a warm greenhouse. It grows readily in loam and peat or leaf-mould, and is easily increased by cuttings. *J. S.*

Fig. 1. Calyx and pistil. 2. Pistil. 3. Section of the ovary :—*magnified.*

Frederic Reeve, imp.

Tab. 4540.

PITCAIRNIA Jacksoni.

Mr. Jackson's Pitcairnia.

Nat. Ord. Bromeliaceæ.—Hexandria Monogynia.

Gen. Char. (*Vide supra*, Tab. 4241.)

Pitcairnia *Jacksoni*; foliis subulato-ensiformibus carinatis subtus albo-furfuraceis supra medium spinoso-serratis, scapo simplici, pedicellis patentibus calycibusque farinosis, sepalis obtusis, corollæ curvatæ petalis linearioblongis subtortis longitudine staminum intus squamosis squama bifida serrata, stigmatibus ciliatis.

This very handsome *Pitcairnia* was flowered by Mr. Jackson, the eminent nurseryman of Kingston, Surrey, who imported it in a very young state, among tufts of Orchideous plants from Guatemala. Its nearest affinity is probably with *P. bromeliæfolia* (Bot. Mag. t. 824, where the differences will be at once apparent) and equally belongs to the division "petalis basi squama instructis." Among them we find no species with which this accords, and hence we name it in compliment to Mr. Jackson. It is, as may be presumed, a stove-plant, and flowers in the summer months, making a striking appearance with its copious large scarlet flowers.

Descr. *Root* of many tufted fibres. *Plant* throwing up many suckers from the base. *Leaves* a foot and more long, subulato-ensiform, striated, attenuated above and below, upper half only spinuloso-serrated, the rest entire, above dark green and naked, below clothed with a whitish floccose or pulverulent substance. *Scape* leafy below, pulverulent, bearing an erect raceme of handsome scarlet *flowers*. *Pedicels* bracteated, standing out almost horizontally and, as well as the calyx, pulverulent. *Calyx* of three, imbricated, erect *sepals*, about three-quarters of an inch long, red with a yellowish margin. *Corolla* scarlet, nearly three inches long, curved. *Petals* linear-oblong, not at all spreading, slightly spirally twisted: near the base within is a conspicuous, membranous, two-lobed *scale*, the lobes slightly serrated. *Stamens* as long as the petals. *Ovary* glabrous,

oblong-ovate: *style* rather longer than the stamens: *stigmas* three, ciliated. *W. J. H.*

Cult. Tropical America and the West Indian islands are the native places of the genus *Pitcairnia*. They generally inhabit dry places, where there is little or no soil. They increase by suckers, and ultimately become dense cæspitose tufts, sometimes found growing on trees. They appear able to bear a great degree of heat and drought, but in a state of cultivation they improve in appearance by allowing them a due share of moisture. This pretty species has flowered in the Orchid-house, under the influence of a moist and warm atmosphere, in which it appears to thrive. A soil composed of light loam and peat suits it. It is increased by taking off the young suckers, which root freely without the aid of a bell-glass. *J. S.*

Fig. 1. Pistil. 2. Base of a petal:—*magnified.*

Fredc[illegible] Reeve [illegible]

Tab. 4541.

CALANTHE Masuca.

Purple-flowered Calanthe.

Nat. Ord. Orchideæ.—Gynandria Monandria.

Gen. Char. *Perianthium* explanatum, liberum, v. sepalis lateralibus labello paullulum adnatis, subæquale. *Labellum* cum columna connatum, lobatum v. integrum, calcaratum v. muticum, disco lamellatum v. tuberculatum. *Columna* brevis, rostello sæpius rostrato. *Pollinia* 8, basi valde attenuata, quaternatim *glandulæ* bipartibili adhærentia.—Terrestres: scapis *erectis multifloris.* Folia *lata, plicata.* **Flores *albi, aut lilacini, raro lutei.* *Lindl.***

Calanthe *Masuca*; scapo erecto, foliis latis oblongis petiolatis acuminatis longiore, racemis multifloris, labello tripartito basi tuberculis seriatis 5-cristato, seriebus intermediis elevatioribus, laciniis lateralibus linearibus subfalcatis intermedia cuneata emarginata in unguem linearem laciniis lateralibus æqualem angustata, calcare longissimo falcato clavato, columna brevi obliqua antice bifoveata, ovario pubescente. *Lindl.*

Calanthe Masuca. *Lindl. Gen. et Sp. Orchid.* p. 249. *Bot. Reg.* 1842. *Misc. p.* 51. *n.* 51.

Bletia Masuca. *Don, Prodr.*

Amblyoglottis veratrifolia. *Blume, Bijdr. p.* 370?

Native of India;—according to Dr. Lindley, of "Nepal, Bengal, Ceylon, and probably Java." It blossomed in 1842 with Messrs. Rollisons, at Tooting, but, though a handsome and really striking plant, it had never been figured. Our fine tuft of the plant at Kew, which blossomed in July and August, was derived from Mr. Clowes' collections.

Descr. Terrestrial. *Leaves* large, herbaceous, oblong-lanceolate, tapering below, acuminated at the apex, plaited and striated. *Scape* erect, a foot and a half high, generally *shorter* than the leaves, terete, glabrous, terminated, by a many-flowered *raceme* with handsome purple *flowers*. *Bracteas* large, subulato-lanceolate, membranaceous: the upper ones coloured. *Sepals* and *petals* similar, oblong, acuminate, spreading. *Lip* tripartite, deep purple: lateral lobes linear-oblong, subfalcate, intermediate one broadly subcuneate: the base of the lip *below* extends into a very long narrow *spur*, furrowed on one side and

bifid at the point : the base of the lip above on the disc bears a five-crested tubercle, the crests transversely furrowed. *Column* very short. *Anther* sunk into a deep hollow of the column. *Pollen-masses* eight, in two rows, much attenuated at the base. *W. J. H.*

Cult. This, being an East Indian terrestrial Orchid, requires to be grown in a moist tropical stove. It thrives in turfy peat containing a small portion of loam. On account of its soft fleshy roots adhering to the sides of the pot, it is desirable to use a shallow wide-mouthed pot, in order to avoid tearing the roots by frequent shiftings. In summer it may be freely watered, but the pot must be well drained, so as to allow the water to pass off freely. Shading is necessary during bright sunshine. In winter it should be placed in a drier atmosphere, and especial care must be taken that no water be allowed to lodge in the folds of the young leaves. *J. S.*

Fig. 1. Column, lip, and spur. 2. Column and base of lip. 3. Pollen-masses.

Fitch del et lith

Frederic Reeve, imp.

Tab. 4542.

OPUNTIA Salmiana.

Prince de Salm's Opuntia.

Nat. Ord. Cactaceæ.—Icosandria Monogynia.

Gen. Char. Perigonii tubus ultra germen non productus; *phylla* sepaloidea subulata, petaloidea dilatata, rosaceo-expansa. *Stamina* numerosa, libera, effusa, limbo breviora. *Stylus* stamina vix superans, cylindraceus, superne fistulosus, inferne obclavatim incrassatus. *Stigma* 5–7-radiatum, radiis crassis, erectis. *Bacca* late umbilicata, pulposa, carnosa vel corticosa, pyriformis vel ovoidea, tuberculata.—Plantæ *carnosæ*; caule *tereti, æquali, ramoso, aut articulato;* articulis *globosis, cylindraceis vel planis, spiraliter tuberculatis.* Tubercula *foliolo subulato, deciduo, in axilla pulvilligero, instructa.* Pulvilli *aculeis biformibus, setaceis scilicet et rigidis, interdum epidermide secedente tunicatis, armati.* Flores *per aliquot dies aperti, flavidi, genitalibus limbo brevioribus. Salm-Dyk.*

Opuntia *Salmiana*; erecta, ramosa, cinereo-læteviridis, ramis cylindraceis etuberculatis, areolis subconfertis tomentosis albidis, senioribus pulvinatim globosis inferne aculeis 3–4 setaceis minutis rufescentibus instructis (Pfeiff.), floribus versus apices ramorum glomeratis, ovario turbinato esquamato nunc prolifero, petalis obovato-lanceolatis sulphureis roseo tinctis.

Opuntia Salmiana. *Parment. in Pfeiff. Enum. p.* 172. *Salm-Dyk, Cacteæ, p.*70.

This pretty and very distinct *Opuntia* is said to be a native of Brazil. Our collection is indebted for the possession of it to the Royal Gardens of Herenhaussen. It blossoms freely, and the ordinary-looking stems and branches are ornamented by the variegated red and yellow and rather copious flowers in September and October. In the generic character we follow that given by the venerable Prince de Salm-Dyk in his recently-published volume entitled "Cacteæ," a work which ought to be in the hands of every cultivator of this curious tribe of plants.

Descr. *Plant* small, one to two feet high, erect, branched, *branches* erecto-patent, cylindrical, rather of an ashy-green colour, destitute of tubercles, obtuse at the apex. *Areoles* scattered, forming white downy tufts of wool, bearing six to eight unequal, brown, small *aculei*, the largest less than half an inch long. *Flowers* moderately sized, clustered at the apex of a branch. *Ovary* obovate, not scaly but areolated, and bearing *aculei* like the branches, and, what is remarkable, after the floral

coverings have fallen away, often producing young plants,—proliferous. *Sepals* and *petals* undistinguishable, or, in other words, the former gradually pass into the latter. In bud the flower is red, when fully expanded the ground-colour is sulphur-yellow, streaked with red and rose-colour in the centre: the *petals* are obovate, and the spread of the flower about two inches. *Stamens* not numerous, yellow. Rays of the *stigma* five or six, yellow-green. *W. J. H.*

Cult. This slender straggling species grows and flowers freely if potted in light loam and leaf-mould, and placed under the full influence of the sun in summer. It should be frequently syringed in the mornings or evenings, during hot dry weather, but care must be taken that all superabundant water passes off freely, and that the soil does not remain long in a saturated state. In winter water must be given very sparingly, and the temperature of the house during the night need not at any time exceed 55°. It readily increases either by cuttings or by seeds, as also by gemmæ produced on each areole of the fruit, which ultimately form separate and distinct plants. *J. S.*

4543.

Frederic Reeve, imp.

Tab. 4543.

PIMELEA macrocephala.

Large-headed Pimelea.

Nat. Ord. Thymeleæ.—Diandria Monogynia.

Gen. Char. Flores hermaphroditi v. dioici. *Perigonium* coloratum, infundibuliforme, *limbo* quadrifido, *fauce* esquamata. *Stamina* 2, fauci inserta, perigonii laciniis exterioribus opposita, exserta. *Squamulæ* hypogynæ nullæ. *Ovarium* uniloculare. *Ovulum* unicum, pendulum, anatropum. *Stylus* lateralis; *stigma* capitatum. *Nux* monosperma, corticata, raro baccata. *Semen* inversum. *Albumen* parcum, carnosum. *Embryo* orthotropus; *cotyledonibus* plano-convexis, carnosulis; *radicula* brevi, supera.—Frutices *Nova Hollandia insulisque conterminis provenientes*; foliis *oppositis v. rarissime alternis*, floribus *capitatis terminalibus*, foliis *involucrantibus*, *rameis similibus v. dissimilibus*, *interdum connatis*, *rarius spicatis v. axillaribus*, perigonii *tubo sæpissime medio articulato*, articulo *inferiore persistente. Endl.*

Pimelea *macrocephala*; glabra, ramis erectis subrobustis, foliis oppositis subsecundis lato-lanceolatis acutis subcoriaceis obscure penninerviis glaucis, involucralibus 4–6 latioribus capitulis multifloris brevioribus, ovario (cum basi adhærente perianthii) hirsuto superne truncato, perianthii tubo elongato gracili pubescente supra ovarium articulato deciduo, limbi laciniis **oblongis obtusis ciliatis, stylo sublonge exserto.**

One of the many good Swan River plants raised by Messrs. Lucombe, Pince, and Co., Exeter Nursery, from seeds received from Mr. Drummond. It is new to Dr. Meisner, as he recently informed us, and has no place in the 'Plantæ Preissianæ.' Perhaps its nearest affinity is with *P. tinctoria*, Meisn., though the leaves do not change to the very peculiar green described as characteristic of that species, and it wants several other distinguishing marks. It bears the number 426 in Mr. Drummond's Swan River specimens in my Herbarium. It is a highly interesting addition to our greenhouse plants, easy of culture, and free to blossom in the summer months.

Descr. *Shrub* two to three feet high, somewhat simple, or fastigiately branched; *branches* erect, glabrous, rather robust (for a *Pimelea*), reddish below, green above, terete, leafy up to the involucre. *Leaves* opposite, glabrous, the upper ones, especially,

erect and secund, all of them large for the genus and thick, subcoriaceous, broad-lanceolate, glaucous, acute, sessile; lower ones more spreading. *Involucre* of four to six leaves, larger and broader than the cauline ones, shorter than the *capitulum*. This latter is two inches and a half across. *Flowers* numerous, dense, very pale rose-colour. *Ovary* (adherent with the base of the tube of the calyx) turbinate, quite truncated at the top, hairy. *Tube* of the *Perianth* slender, long, downy, articulated on the truncated summit of the ovary; the segments of the limb oblong, spreading or recurved, ciliated at the margins. *Stamens* and *style* much exserted. *Anthers* orange. *W. J. H.*

Cult. An Australian genus, consisting of slender twiggy shrubs, and now numbering above fifty described species. The greater number are natives of Van Diemen's Land and the extra-tropical coasts of Australia, many being found at Swan River and at King George's Sound on the south-west coast: a few extend northward to within the tropics, and several are natives of New Zealand. About twenty species are known to have been introduced into the gardens of this country. The first was *P. linifolia* in 1793, followed by *P. rosea* in 1800; between the latter year and 1823, *P. drupacea* and *P. pauciflora* were introduced: the first two, being pretty flowering species, were frequent inmates in the greenhouse, whereas the two latter, having inconspicuous flowers, were seldom seen, except in collections where rarity and number of species were desired. In 1823 we were so fortunate as to raise plants of *P. decussata*, which, on account of its being of neat habit and a free and showy flowering species, soon became a favourite with cultivators, but has of late been in some measure superseded by its more showy rival, *P. spectabilis*, which was introduced about ten years ago. The species now figured is of recent introduction, and, from what we know of it, will turn out to be another showy species. It is, like its allies, a greenhouse plant, and grows vigorously if planted in turfy peat-soil, containing a little loam, and kept sufficiently drained. Over-watering is undesirable, especially during dull damp weather in winter and spring; and in hot weather the sides of the pot must not be exposed to the direct rays of the sun. It will propagate by cuttings, placed under a bell-glass, and treated in the usual way, but it has been found to produce the best plants if grafted on stocks of *P. decussata*. *J. S.*

Fig. 1. Lower leaves. 2. Flower:—*magnified*.

1.

Reeve del et lith.

Frederic Reeve imp

Tab. 4544.

ASTRAPÆA viscosa.

Viscid Astrapæa.

Nat. Ord. Byttneriaceæ.—Monadelphia Polyandria.

Gen. Char. Flores umbellati (seu capitati), involucro communi polyphyllo (quandoque obsoleto) cincti, foliolis subrotundo-ovatis. *Calyx* 5-dentatus, extus 1-bracteatus. *Petala* 5, more *Malvavisci* convoluta (convoluto-clausa, *Lindl.*). *Stamina* in tubum longe coalita, 5 sterilia, 20 (v. 15) antherifera. *Ovarium* 5-loculare. *Stylus* 1. *Stigmata* 5. *Ovula* in loculis pauca, inappendiculata. *Lindl.*

Astrapæa *viscosa* ; arborea, ramulis viscosissimis, foliis cordato-rotundatis 3–5-angulato-lobatis serratis, lobis acuminatis, stipulis cordatis acutissimis, pedunculis axillaribus subterminalibus solitariis supra medium bibracteatis, involucro communi obsoleto, bracteis cordatis concavo-carinatis, pedicellis lobisque calycinis ovatis extus hirsutis, petalis patentibus, staminum tubo urceolato, filamentis sterilibus elongatis, antheris 15.

Astrapæa viscosa. *Sweet, Hort. Brit.* (*name only.*)

Dombeya Ameliæ. *Guillemin in Archives de Bot. v.* 1. *p.* 367.

This is really a noble plant or tree, thirty feet in height, as now seen in the great stove of the Royal Gardens of Kew, with a large rounded head of copious branches, and dense foliage, studded, in the spring months, with numerous snowball-like capitula of flowers, each flower stained with a deep blood-coloured eye. M. Guillemin, l. c., has very correctly given the history of its introduction. "Cette belle plante," he says, "porte le nom d'*Astrapæa viscosa* dans l'Hortus Britannicus de M. Sweet, simple catalogue où sa patrie originaire est indiquée. Il paroît qu'elle fut reçue, en 1823, de Madagascar ; qu'on l'a cultivé d'abord en Angleterre" (Royal Gardens, Kew), "puis dans les divers jardins du continent européen." Yet, notwithstanding it has been thus liberally distributed from England upon the continent under the very apt name of *Astrapæa viscosa*, M. Guillemin thinks fit to refer it to *Dombeya* (though it is truly an *Astrapæa*, if that genus be distinct from *Dombeya*), and to change the appropriate specific name to *D. Ameliæ*, in compliment to the estimable, now widowed, ex-queen of the French,

November 1st, 1850.

a fugitive in England ; "S. M. la Reine des François, frappée de la beauté de cette fleur (at the garden of Neuilly), ayant chargé M. Redouté d'en faire la peinture, cet artiste celèbre a bien voulu communiquer à M. Guillemin un échantillon de la plante," &c. Our own knowledge of this amiable personage suffices to assure us that such a change would be considered no compliment to herself. The flowers have a honey-like smell.

Descr. Arborescent, with a dense crown of branches and copious foliage. The young herbaceous *branches* and nascent leaves, accompanied by large, cordate, afterwards deciduous *stipules*, are exceedingly viscid. *Leaves* on long petioles, the largest of them a span and more long, cordato-rotundate, five-angled (the smaller ones three-angled), the angles or lobes acuminate, the margins serrated. From the axils of the leaves towards the extremity of the branches, the *peduncles* appear, a span long, bearing two cordate *bracteas* above the middle. The *flowers* of the young capitulum are clothed by the large deciduous bracteas (one to each flower), and at the base of the capitulum three or four such bracteas form an imperfect *involucre*. These bracteas disappear on the full expansion of the many flowers into a globose head, four inches and more in diameter. *Pedicels* hairy. *Calyx-segments* ovate, acuminate, hairy externally. *Petals* five, twisted, broad-cuneate, pure white, the base deeply dyed with crimson. *Staminal tube* urceolate, bearing five perfect short *stamens*, and five elongated sterile *filaments*. *Ovary* hairy, globose. *Style* divided at the top into five reflexed branches. *W. J. H.*

Cult. This is a tropical, soft-wooded, branching tree, of quick and robust growth, soon arriving at a height that renders it unsuitable for hothouses of the ordinary dimensions. In the Royal Gardens it has rapidly attained the height of upwards of twenty feet ; but, as it branches freely, it may, with management, be kept within bounds by frequently cutting back the leading shoots. It grows readily in light loam, and should be rather freely supplied with water, as its numerous fibrous roots take it up very quickly, and the size and texture of its leaves present a large and free evaporating surface. It is easily increased by cuttings, planted under a bell-glass, the pot being plunged in bottom heat. *J. S.*

Fig. 1. Flower from which the petals are removed :—*magnified*.

Fitch del et lith

Frederic Reeve imp.

Tab. 4545.

HOYA CAMPANULATA.

Bell-flowered Hoya.

Nat. Ord. Asclepiadeæ.—Pentandria Digynia.

Gen. Char. (*Vide supra*, Tab. 4397.)

Hoya *campanulata*; volubilis, glabra, foliis breviter petiolatis oblongis acutis subcoriaceis penninerviis, pedunculis petiolo longioribus, umbella multiflora, corolla late campanulata 5-lobata lobis brevissimis obtusissimis.

Hoya campanulata. *Blume, Bijdr. p.* 1064. *Lindl. Bot. Reg.* 1847, *t.* 54.

Physostelma ? campanulata. *Decaisne, in De Cand. Prodr. v.* 8. *p.* 632. *Walp. Repert. Bot. p.* 493.

Cystidianthus campanulatus. *Harsk. Cat. Pl. in Hort. Bot. Bogor. p.* 126.

A very remarkable stove-plant, native of copses in the mountainous districts of Java, detected by Blume, and imported into England by Messrs. Veitch and Sons (to whom we are indebted for living plants) through the medium of their collector, Mr. Thomas Lobb. We agree with Dr. Lindley that, remarkable as is the form of the corolla, there is nothing to justify its separation from *Hoya*; and it does not accord with *Physostelma* of Dr. Wight, to which Professor Decaisne has doubtfully referred it. If distinct from *Hoya*, it should bear Harskal's name above quoted. Blume makes a section of it: "*Corolla campanulata, angulato-5-plicata, coronæ foliolis angulo exteriori adscendentibus integerrimis.*" It bears its curious, somewhat waxy and pale buff-coloured flowers in August.

Descr. A long-stemmed twining *shrub*, with slender *branches*. *Leaves* opposite, oval-oblong, acuminate, scarcely coriaceous, penninerved. *Petiole* nearly half an inch long. *Peduncle* slender, drooping, as is the large capitate *umbel*. *Pedicels* very slender. *Calyx* small, of five lanceolate *sepals*. *Corolla* large, an inch and a quarter to an inch and a half in diameter, between membranaceous and fleshy, somewhat waxy, buff-coloured, broadly and shallow-campanulate, plicate, the margin cut into

five, broad, obtuse, very short lobes. *Lobes* of the *staminal crown* acuminate, slightly ascending. *W. J. H.*

Cult. A climbing plant, which, as regards its habit, may be considered a thin-leaved *Hoya*. Being a native of Java, it requires to be kept in a warm and moist stove. A mixture of light loam and peat will suit it, and during its season of rest care must be taken that it is not saturated with water. Its pendulous umbels of flowers are shown most to advantage by training the plant up a rafter, or something similar, in a nearly horizontal direction. It is easily propagated by cuttings. *J. S.*

Fig. 1. Staminal crown :—*magnified*.

1.

2

3.

Tab: 4546.

FREZIERA THEOIDES.

Tea-leaved Freziera.

Nat. Ord. Ternstrœmiaceæ.—Polyandria Monogynia.

Gen. Char. *Calyx* bibracteolatus, pentaphyllus, persistens, *foliolis* imbricatis, exterioribus minoribus. *Corollæ* petala 5, hypogyna, calycis foliolis alterna, subæqualia, orbiculata, æstivatione imbricata. *Stamina* plurima, hypogyna, pluriseriata; *filamenta* brevissima; *antheræ* introrsæ, biloculares, oblongæ v. lineares, basi insertæ, erectæ, longitudinaliter dehiscentes. *Ovarium* liberum, tri-quinqueloculare. *Ovula* plurima, loculorum angulo centrali biseriatim inserta, pendula, campylotropa. *Stylus* brevis, simplex; *stigma* tri-quinquelobum. *Bacca* sicca, styli basi rostrata, tri-quinquelocularis. *Semina* in loculis plurima, rarius pauca, pendula, arcuata, testa crustacea, nitida. *Embryo* cylindricus, in axi albuminis carnosi homotrope arcuatus; *cotyledonibus* et *radicula* supera.—Arbores *Americanæ, pleræque Peruvianeæ Andicolæ, paucæ in Antillis monticolæ*; foliis *alternis, petiolatis, coriaceis, serrato-dentatis, stipulis nullis*, pedunculis *axillaribus unifloris, solitariis v. fasciculatis, basi bracteolatis*, floribus *parvis, albis.*

Freziera *theoides*; foliis elliptico-lanceolatis acutis serrato-dentatis basi in petiolum brevem attenuatis, floribus nutantibus, pedicellis axillaribus subsolitariis unifloris, antheris apiculatis dorso penicellatis, stylo apice trifido.

Freziera theoides. *Swartz, Fl. Ind. Occ. v.* 2. *p.* 971. *De Cand. Prodr. v.* 1. *p.* 524. *M'Fad. Fl. Jam. v.* 1. *p.* 115. *Spreng. Syst. Veget. v.* 2. *p.* 596.

Eroteum theoides. *Swartz. Prodr. p.* 85.

A Jamaica *shrub* or small *tree*, inhabiting the higher mountains of that island, and remarkable for its very near resemblance, both in the leaves and flowers, to the black Tea of China, *Thea Bohea*; and Dr. M'Fadyen informs us, in his useful 'Flora of Jamaica,' that the leaves are astringent, and in taste resemble those of the green Tea. Although described by Swartz, no figure has yet appeared of it; nor are we aware it had been introduced alive to Europe, till recently sent by our friend Mr. N. Wilson, of the Botanic Garden, Jamaica, to the Royal Garden of Kew. From these flowering plants our drawing was made in September 1850.

Descr. A *shrub* four or five feet high in our stove; in Jamaica, according to Dr. M'Fadyen, it attains a height of twenty feet: everywhere glabrous. *Leaves* alternate, on short *petioles*,

coriaceous, very dark green, elliptical-lanceolate, acute, serrated, penninerved, the *nerves* uniting within the margin. *Peduncles* in our plants all solitary, axillary, curved down, single-flowered. *Flower* drooping, an inch and a half across. *Calyx* bibracteolate at the base, five-sepaled; *sepals* broad ovate, acute, green, margined with red. *Petals* cream-white, obcordate. *Stamens* numerous, attached to the base of the petals. *Anthers* oblong, opening by two pores, apiculate or furnished with a tuft or pencil of hairs at the back. *Ovary* subglobose, glabrous, tapering into a short *style*, trifid at the point. *Fruit* "a berry, the size of a small cherry, globose, purple, juicy, three- or four-celled. *Seeds* many, angulated." *W. J. H.*

Cult. Although not a showy flowering plant, its neat and evergreen habit renders it worthy of a place in general collections of stove-plants. It much resembles the well-known *Ardisia crenulata*, but grows more luxuriantly; as, however, it bears cutting back, it may be kept to a proper size, and will form a neat bush. Being a native of Jamaica, it should be grown in a moderate stove temperature, and will thrive in any kind of light loam, water being freely given it during dry weather in summer. It is readily propagated by cuttings, planted in sand, under a bell-glass, and plunged in a moderate bottom-heat. *J. S.*

Fig. 1, 2. Stamens. 3. Pistil:—*magnified.*

Fitch, del et lith.

Frederic Reeve imp.

Tab. 4547.

ECHITES Franciscea;

var. *floribus sulphureis.*

The River Francisco Echites; sulphur-coloured var.

Nat. Ord. Apocyneæ.—Pentandria Digynia.

Gen. Char. Calyx 5-partitus, lobis interne omnibus vel solum interioribus glandulosis aut squamatis. *Corolla* hypocraterimorpha vel infundibuliformis; *tubo* plus minus elongato, cylindrico vel basi cylindraceo et supra vel apice infundibuliformi, exappendiculato, intus supra staminum insertionem plerumque hispido; *lobis* æstivatione sinistrorsum convolutis. *Antheræ* ubi tubus corollæ latior fit insertæ, subsessiles, medio stigmati adhærentes, sagittatæ, lobis inferioribus polline destitutis. *Nectarium* e glandulis 5, lobis calycis alternantibus, liberis vel plus minusve connatis, nunc 2 vel 3 connatis aliis distinctis. *Ovaria* 2, nectaria plerumque longiora, sæpius glabra, ovulis ∞. *Stylus* 1. *Stigma* capitatum, ovoideum vel pyramidato-pentagonum, basi membrana integra vel lobata umbraculiformi reflexa stipatum, apice simplex vel bilobum. *Folliculi* 2, elongati, cylindrici vel torulosi, coriacei. *Semina* lineari-oblonga, ventre carinata, superne comosa; *albumine* parco; *embryone* axili; *cotyledonibus* planis, facie adpressis, radicula supera longioribus.—Frutices *vel* suffrutices *scandentes, rarius* herbæ suffrutescentes *erectæ, omnes speciebus dubiis exceptis* Americanæ; foliis *oppositis, integris*, ciliis *glandulosis interpetiolaribus*, glandulisque *interdum superne ad basim limbi*; cymis *axillaribus vel terminalibus, sæpius in racemum simplicem elongatis*; floribus *albis, flavis, roseis vel purpureis, sæpe fragrantibus. Decaisne.*

Echites *Franciscea*; ramis racemis foliisque puberulo-velutinis, foliis ovatis acutis mucronatis, racemis simplicibus axillaribus folio subbrevioribus, lobis calycinis triangulari-acuminatis pedicello duplo brevioribus externe pilosis tubo corollæ quadruplo brevioribus, corolla glabra tubo infra mediam partem angustiore sursum infundibuliformi lobis longiore. *A. De Cand.*

Echites Franciscea. *Alph. De Cand. Prodr. v.* 8. *p.* 454. *Lindl. Bot. Reg.* 1847, *t.* 24.

β. *pallidiflora*; floribus minoribus sulphureis roseo-oculatis. (Tab. Nostr. 4547.)

This pretty plant was received from the Paris Garden under the name of *E. Franciscea*, a native of Brazil, cultivated in the stove. It is, however, a very distinct variety from the original species of that name, and, as such, worthy of a place here.

Cult. This is a freely-growing stove creeper, and may be

either grown in a pot, and supported by neat rods or a wire trellis fixed to the pot; or planted out in a border against a back wall or pillar. A mixture of light loam and peat will suit it. The usual precautions must be taken that the soil does not become stagnant by over-watering,—a rule to be carefully observed with plants generally, especially those with fine fibrous roots, when cultivated in large pots. Great mischief results from injudicious watering;—not so much from giving too great a quantity of water when a plant really needs it, as from the common practice of watering *often*, and giving a little each time. The consequence is, that either the lower roots receive no water, or the soil becomes a stagnant wet mass, which, even if no more water is given, will take a long time to come to the proper degree of dryness; in the meantime the roots suffer, as is shown, when too late, by the unhealthy appearance of the plant. *J. S.*

Fig. 1. Pistil and stamen:—*magnified*.

Fitch.del et lith

Reeve & Nichols. imp

Tab. 4548.

ALMEIDEA rubra.

Red-flowered Almeidea.

Nat. Ord. Rutaceæ.—Pentandria Monogynia.

Gen. Char. Calyx minimus, 5-partitus, deciduus. *Petala* 5, calyce multoties longiora, unguiculata, spathulata, æqualia, erecta. *Stamina* 5, petalis alterna; *filamentis* complanatis supra medium barbatis, *antheris* linearibus basi bifidis. *Nectarium* cupulæforme, ovarium cingens. *Stylus* 1. *Stigma* obtuse 5-lobum. *Carpella* 5, biovulata (ovulo superiore adscendente, inferiore suspenso), axi centrali adfixa, demum abortu pauciora, libera, 1-sperma, ad umbilicum membranacea, parte membranacea ruptili, umbilico seminis adhærente, arillæformi. *Semen* reniforme. *Embryo* curvatus. *Cotyledones* magnæ, biauriculatæ, corrugatæ. *Mucilago* vix ulla inter cotyledonum plicas.—Arbusculæ *Brasilienses*, foliis *simplicibus sparsis petiolatis nitidis glanduloso-punctatis*, floribus *racemosis*. *De Cand.*

Almeidea *rubra*; foliis lato-lanceolatis basi acutis, racemis compositis, pedunculis glabris, petalis obtusissimis.

Almeidea rubra. *St. Hil. Hist. Pl. Remarq. Brés. v.* 1. *p.* 144. *De Cand. Prodr. v.* 1. *p.* 729. *St. Hil. Fl. Braz. Merid. v.* 1. *p.* 86. *t.* 18. *Spreng. Syst. Veget. v.* 1. *p.* 789.

This handsome plant, with flowers of the size and colour of *Lemonia spectabilis*, but arranged in a compound raceme or thyrsus, is one of six species of a shrubby new genus, detected in Brazil by M. Auguste de St. Hilaire. He dedicated it to his friend and patron Don Rodriguez Pereira de Almeida, and referred it to the "*Rutacées* proprement dites" (Tribe *Diosmeæ*, DC.); but remarks that it is of all others of that group the most allied to *Cusparieæ*. "It possesses the calyx and nectary of *Cusparieæ*; its stamens are those of *Galipea*; its ovules, two in number, are attached as in *Cusparieæ*; its false arillus is the same as in *Monniera*; and, in fine, its embryo, destitute of perisperm, with the radicle curved and the corrugated cotyledons, the one enveloping the other, resembles that of *Galipea Fontainesiana*." Our plant was received from Mr. Makoy of Liége, and its flowering-season with us is the autumn.

Descr. A ramous *shrub*, three to five feet high, with *leaves* which are alternate, broadly lanceolate, acute at the base, acu-

minate at the apex, penninerved, quite entire at the margins. *Petioles* an inch long or more. *Panicle*, or compound *raceme*, thyrsoid. *Pedicels* glabrous, thickened upwards, with small deciduous *bracteas*. *Flowers* often two or three together, moderately numerous. *Calyx* short, cut into five acute teeth. *Petals* obovato-spathulate, very obtuse, spreading, deep rose-colour (as is the calyx). *Filaments* of the *stamens* linear, contracted below the anther, slightly downy, grooved towards the base, and above the groove are two hairy tubercles. *Anthers* oblong. *Ovary* of five lobes, pellucido-punctate, surrounded by an entire, cup-shaped *nectary*. *Style* longer than the stamens. *Stigma* capitate, obscurely five-lobed. *W. J. H.*

Cult. The genus to which this plant belongs is from tropical America, chiefly Brazil; its species therefore require to be grown in a stove temperature. The one here figured flowered during the month of September in the Palm-house. It should be potted in a mixture of light loam and leaf-mould, and receive the benefit of bottom-heat, which we consider of great importance in cultivating, and maintaining in a healthy state, plants of slow growth like the present. It is increased by cuttings plunged in bottom-heat. *J. S.*

Fig. 1. Stamen. 2. Calyx, pistil, and nectary. 3. Transverse section of an ovary :—*magnified*.

Fitch del et lith.

Reeve & Nichols, imp

Tab. 4549.

PACHIRA longifolia.

Long-flowered Pachira.

Nat. Ord. Bombaceæ.—Monadelphia Polyandria.

Gen. Char. (*Vide supra*, Tab. 4508.)

Pachira *macrocarpa*; foliis 7–11-natis, foliolis oblongo-obovatis basi cuneatis apice acuminatis glabris, floribus maximis, calyce brevi-tubulo truncato basi glanduloso, petalis longissimis albis extus sericeo-velutinis, staminibus petala æquantibus flavo-coccineis, antheris anguste linearibus curvatis, stylo gracili, stigmate 5-lobato.

Carolinea macrocarpa. *Cham. et Schlecht. in Linnæa, v.* 6. *p.* 423. *Walpers, Repert. Bot. v.* 1. *p.* 329. *Hort. Makoy.*

M. Auguste St. Hilaire, under the genus *Pachira*, justly observes, "Le diagnostic des espèces de ce genre est fort difficile à établir; car ses fleurs, qui généralement ne se développent pas en même temps qui les feuilles, ont été souvent seules observées et recueillies par les voyageurs; et, uniformes dans leur structure, elles ne présentent pas entre elles des differences assez saillantes pour qu'on puisse les caractériser en peu de mots." These observations will apply eminently to the *P.* (*Carolinea*) *macrocarpa* of Chamisso and Schlechtendal, in the Linnæa above quoted; and, indeed, the authors candidly remark of their plant, "Flores ex alabastro nobis imperfecte noti." Nor should we venture to call this plant "*macrocarpa*," but that it was received from Mr. Makoy under that name, who probably derived it from Berlin, where the seeds of the original *macrocarpa* were raised. It is a native of Mexico. The flowers are truly magnificent, and yet produced in the present instance from a young and small plant. As a species it comes very near the *P. aquatica* of Aublet, and may probably prove identical with it.

Descr. Of the ordinary size of the native plant we are ignorant. Our flowering specimen had not attained a greater height than four feet, and what gives this a decided advantage over our *P. alba*, lately figured (Tab. 4508), it bears the flowers and foliage together. *Leaves* large, glabrous, digitate, with from seven to

eleven *leaflets*, which are oblong-obovate, entire, acuminate, cuneate, and tapering at the base into a short *footstalk*. *Flowers* very large. *Calyx* short-cylindrical, truncated; thick and leathery, clothed with minute, velvety down, bearing a circle of conspicuous glands at the base. *Petals* full six inches long, linear-strap-shaped, the upper half reflexed, white and smooth within, pale greyish or greenish-brown and slightly velvety externally. *Staminal tube* rather short, divided into innumerable parcels, each again divided into eight to ten *filaments*, which are yellow below, the rest deep red. *Anthers* narrow linear, arcuate. *Style* longer than the stamens, deep red, slender. *Stigma* small, five-lobed. *W. J. H.*

Cult. This, like *Pachira alba*, figured at Tab. 4508, is a tall tree of rapid growth, and, as it requires the temperature of a stove, it is adapted only for growing in lofty hothouses, such as the Palm-house in the Royal Gardens, in which a plant has quickly attained the height of twenty-five feet, and, according to its present rate of growth, will soon double that height. It has not yet flowered, the present figure having been drawn from a plant that bloomed when not more than a foot in height, and which had but recently been struck from a cutting. It is a fine-looking tree, not subject to insects of any kind, and differs from *Pachira alba* in its leaves not being deciduous: in our cultivation it appears to have no season of rest. It will grow freely in any kind of light loam, kept in a proper state of moisture, and increases by cuttings placed under a bell-glass, and the pot plunged in bottom-heat. *J. S.*

1.

2.

Fitch del et lith.

Reeve & Nichols imp

Tab. 4550.

PRIMULA CAPITATA.

Round-headed mealy Primrose.

Nat. Ord. Primulaceæ.—Pentandria Monogynia.

Gen. Char. *Calyx* subcampanulatus vel tubulosus, plus minus profunde 5-dentatus vel etiam 5-fidus. *Corolla* hypocraterimorpha vel infundibuliformis, limbo 5-fido, lobis plerumque emarginatis, fauce ad limbum dilatata, tubo tereti calycem æquante aut superante. *Stamina* inclusa. *Filamenta* brevissima. *Antheræ* sæpe acuminatæ. *Ovarium* globosum aut ovato-globosum. *Ovula* ∞ peltatim amphitropa. *Capsula* ovata, 5-valvis, valvulis integris aut bifidis apice tantum dehiscentibus, seminibus minimis numerosis.—Herbæ foliis *plerumque radicalibus*, scapo *simplici*, floribus *umbellatis involucratis rarius verticillatis sæpissime spe-ciosis*.

Primula (§ Aleuritia) *capitata*; foliis oblongo-lanceolatis denticulatis rugosis subtus præcipue farinosis, scapo elongato superne incrassato, floribus dense capitatis, involucri foliolis lanceolatis, calycibus furfuraceis profunde 5-lobis lobis latis ovato-acuminatis, corollæ hypocrateriformis limbo tubum transverse rugosum æquante lobis profunde emarginatis.

Raised at the Royal Gardens of Kew, from seeds sent by Dr. Hooker, which were gathered in June 1849, from plants growing on gravelly banks at Lachen, Sikkim-Himalaya, one of the Passes into Thibet; elevation, 10,000 feet above the level of the sea. It is, although of the same groupe of *Primulæ* with the *P. denticulata* of the Nepal mountains and our own *P. farinosa* of the north of England and Scotland, a remarkable and well-defined species, the flowers being actually sessile, and so crowded as to form a compact globose head, like that of many species of *Allium* or *Armeria*. Dr. Hooker observed that it yields a faint fragrance, which it does in cultivation, but this, in part at least, is derived from the farinaceous substance of the leaves and flowers. It flowers with us in a pot in the rock-border, in October.

Descr. *Root*, or rather *rhizoma*, an almost globose, rough dark brown *tuber*, bearing a few fibrous radicles from immediately beneath the *leaves*, which latter are all radical, three to five inches long, oblong-lanceolate, rather obtuse, denticulate,

rugose, farinose beneath, tapering below into a short footstalk, red at the base. *Scape* often a foot long, moderately stout and thickened upwards, mealy, terminated by a dense globose head of *flowers*, bracteated at the base, the outer *bracteas* lanceolate, and forming a small, reflexed *involucre*. *Calyx* sessile, mealy, large, campanulate, deeply 5-fid, the segments ovate, acuminate, subpatent. *Corolla* with the tube nearly twice as long as the calyx, almost white, mealy, a little inflated upwards, and transversely wrinkled; *limb* of five, obcordate, spreading *lobes*, deep purple above, pale beneath. *Anthers* small, nearly sessile, inserted below the middle of the tube. *Ovary* globose. *Style* filiform, as long as the tube. *Stigma* large, capitate. *W. J. H.*

Cult. In habit this approaches our native species, *P. farinosa* and *P. Scotica*, and although it is a native of a high region and consequently subjected to a great degree of cold, yet, like other alpine species of the genus, it will probably require some slight protection in this climate, especially under our artificial mode of cultivation. During the past summer we had a number of plants growing very luxuriantly,—apparently too much so, for not one of them has yet shown any appearance of flowering. The present figure was drawn from a plant that had not been so well taken care of, and was stunted in its growth. Several of the vigorous plants suddenly died: it is therefore safest, till we become better acquainted with this species, to grow it in a frame during winter; and in summer to set it in a shady place, that it may escape the heat of the sun in the middle of the day. It appears to suffer by frequent watering overhead, the pot should, therefore, be placed in a pan, so as to receive water from the bottom. *J. S.*

Fig. 1. Flower. 2. Corolla laid open:—*magnified.*

1.

3.

4.

2.

Tab. 4551.

BERTOLONIA maculata.

Spotted-leaved Bertolonia.

Nat. Ord. Melastomaceæ.—Decandria Monogynia.

Gen. Char. Calycis tubus campanulatus, lobis 5 obtusis sæpius latis brevissimis interdum concretis in limbum integrum. *Petala* 5, obovata. *Stamina* subinæqualia; *antheræ* ovatæ, obtusæ, 1-porosæ, basi attenuatæ, vix aut non auriculatæ. *Ovarium* non setosum. *Capsula* trigona, trivalvis, valvis apice quasi retuso-subuncinatis transverse sub apice sectis et operculi faciem ideo exhibentibus. *Semina* cuneato-triquetra, scabra.—Herbæ *Brasilienses, radicantes.* Folia *petiolata, ovata, cordata,* 5–11-*nervia, crenulata.* Cymæ *corymbosæ, terminales.* Flores *albi aut purpurei.*

Bertolonia *maculata*; caule repente ramoso et petiolis quam folia brevioribus pedunculisque hirsutis, foliis cordatis lato-ovatis subintegerrimis 5-nerviis passim maculatis hirsutulis, pedunculis axillaribus, floribus in cyma unilaterali, calycibus hispidulis. ***Mart.***

Bertolonia maculata; *De Cand. Prodr. v.* 3. *p.* 114. *Mart. Nov. Gen. et Sp. Bras.* ***v.*** **3.** ***p.*** **116.** ***t.*** **257.**

This is one of the many lovely tropical plants now cultivated in our stoves, distinguished by the "folia discolora;" that is, the upper and underside differing in colour, and the upper with a rich and glossy surface, refracting the rays of light in such a manner as to give a coppery or velvety hue, not easily represented in a drawing. The subject of our present plate was received at the Kew Gardens from Mr. Henderson, St. John's Wood Road Nursery, under the name of *Eriocnema æneum* of Naudin. But the plant is no *Eriocnema.* It belongs to the curious and beautiful genus *Bertolonia*, "dont le caractère essentiel consiste," as M. Naudin has himself well expressed, "dans la forme tout-à-fait insolite du calyce et de la capsule;" and it is equally certain that it is the *B. maculata* of De Candolle and of Martius above quoted, t. 257. This fruit or capsule is an elegant object, especially when the eye is aided by a small power of the microscope; for it is singularly inflated, with three very prominent angles and several ribs, and every rib, as well as the margin of the lobes of the calyx, is beset with bristles, termi-

nated by a gland. In many, and perhaps all the *Bertolonias*, a singular appearance is given to the specimens by the persistent dead and *perfectly* bleached thickened flower-stalks and fruits upon the otherwise healthy plant. In our representation of the plant the term "*maculata*" may be deemed incorrect; but exactly in this state Martius represents his native specimen, and he observes of the leaves, "supra saturate viridia et sæpe more *Pulmonariæ officinalis* maculata." Our wild specimens from Mr. Gardner (Herb. Braz. n. 1009) have a pale cloud or blotch extending to both sides of the costa; and we have a variety or allied species from St. Sebastian (gathered by the late Mr. Fox and given to us by Mr. Bunbury), with quite distinct oblique red spots between the nerves in regular series the whole length of the leaf. Martius found our present species in the province of Bahia, Mr. Gardner in that of Pernambuco.

Descr. *Stem* short, decumbent, rooting at the base, simple or slightly branched, densely clothed with ferruginous hairs. *Leaves* opposite, long-petioled, cordately ovate, acute, obscurely toothed, membranaceous, five-nerved, hispid above and at the margin, dark velvety green, often obscurely blotched, beneath purple. *Peduncle* terminal or subterminal, red, setose, bearing a circinate, one-sided *raceme* of flowers. *Calyx* turbinate, trigonal and ribbed, the ribs ciliated: *lobes* of the *calyx* ovate, ciliated,—all the cilia or setæ glandular at the apex. *Petals* five, obovate, acute, rose-coloured. *Stamens* ten, nearly equal. *Anthers* oblong, tapering upwards, uniporose, with a slight gibbosity at the back of the hilum. *Style* rather thick, a little tapering. *Fruit* as above described. *W. J. H.*

Cult. This pretty little plant is a native of Brazil, and consequently requires to be kept in a warm stove. It has not been many months under our notice, but appears to grow and flower freely, in a small pot, in light peat-soil. As it has very fine fibrous roots, care must be taken that it be never allowed to remain too long dry. Judging by its habit of growth, it is not likely that much increase of it can be obtained by cuttings, but, to all appearance, it will produce perfect seeds. *J. S.*

Fig. 1. Stamen. 2. Calyx and pistil. 3. Transverse section of the ovary. 4. Fruit:—*magnified.*

2.

3.

1.

Fitch. del et lith.

Reeve & Nichols, imp

Tab. 4552.

CENTROSOLENIA GLABRA.

Glabrous-leaved Centrosolenia.

Nat. Ord. Gesneriaceæ.—Didynamia Angiospermia.

Gen. Char. Calyx 5-partitus, segmentis serratis. *Corolla* tubulosa, basi postice calcarata, fauce parum ampliata, in limbum brevem latissime 5-lobum expansa. *Stamina* prope basin tubi inserta, didynama cum rudimento minuto quinti, inclusa. *Annulus* hypogynus obscurus, *glandula* postica maxima. *Ovarium* oblongo-conicum, hirsutum. *Stylus* apice dilatatus, subcapitato-stigmatosus. *Fructus* capsularis? *Benth.*

Centrosolenia *glabra*; foliis disparibus, maximo oblique obovali-oblongo serrato costis subtus petiolisque pilosis exceptis glabro, opposito parvo lanceolato, corollæ pubescentis lobis inferioribus longe fimbriatis. *Benth.*

Centrosolenia glabra. *Benth. MSS.*

An interesting and rather handsome Gesneriaceous plant, imported by the Royal Gardens of Kew from La Guayra, through Mr. Wagener, a German collector, who has been long travelling in that country. It forms a stove-plant, and keeps up a succession of flowers with us through the autumnal and early winter months. We submitted the figure to Mr. Bentham for his opinion, as he has paid much attention to the family to which it belongs, and has published the results of his observations in the 5th volume of the 'London Journal of Botany,' p. 357, &c. That gentleman considers the plant as clearly constituting a second species of his new genus *Centrosolenia* (l. c. p. 362), and he has obligingly furnished the accompanying character and description. M. Decaisne's genus *Trichanthe*, since published, probably in the 'Revue Horticole,' for 1848, he believes to be identical with *Centrosolenia*. If so, it must give place to the latter name, which appeared in 1846, and consequently has the right of priority.

Descr. An erect *plant*, with a succulent, reddish-brown, terete *stem*, a foot or more high. *Leaves* succulent, glabrous, the lower ones six to eight inches long, opposite, and each pair is singularly unequal in size; one being small, lanceolate, and acu-

minate ; the other large, ovate, tapering at the base into a stout *petiole*, and acuminate at the apex, the margin serrated. *Pedicels* aggregated, axillary, downy, six to seven lines long, hairy. *Calyx* entirely free, the four lower lobes lanceolate-linear, about nine lines long, with one or two shorter or longer teeth above the middle, coloured and slightly hairy ; the upper lobed, much shorter, and narrow, deflected by the spur. *Corolla* tubular, enlarged upwards, projected below into a short obtuse spur, the whole tube about an inch and a half long, clothed outside with a short thin down, the *limb* divided into five broad short lobes, of which the three lower are fringed with long thread-like laciniæ ; inside of the corolla smooth. *Stamens* inserted near the base of the corolla : *filaments* smooth, *anthers* cohering, slightly fringed with hairs at the lower end. Rudiment of the fifth stamen small. Annular disc nearly obsolete, with a large posterior gland. *Ovary* conical, hairy, with two lamelliform, bipartite, parietal placentæ. *Style* smooth, thick, somewhat clavate, with the stigmatic extremity rarely emarginate. *Benth.*

Cult. A tropical soft-wooded plant, of robust, straggling growth, and, like many other Gesneriaceous plants, of an epiphytal habit, and will grow freely on decaying vegetable matter in a warm and moist atmosphere. The plant here represented was raised from seed, and has grown luxuriantly in a mixture of light loam and peat-soil. It is readily increased by cuttings, which produce roots without the aid of a bell-glass. *J. S.*

Fig. 1. Base with the spur of the corolla and stamens, side-view. 2. Anterior view of ditto. 3. Pistil and hypogynous glands :—*magnified.*

2.

1.

Fitch, del et lith.

Reeve & Nichols, imp.

Tab. 4553.

OXYSPORA vagans.

Weak-stemmed Oxyspora.

Gen. Char. Calycis tubus oblongus ; *lobi* 4, ovati, mucronulati. *Petala* 4, lanceolata, oblique acuta. *Stamina* 8, (in-)æqualia, *filamentis* planiusculis. *Antheræ* elongatæ, basi in calcaria duo obtusa producta, connectivo vix perspicuo. *Capsula* 4-locularis, 4-valvis. *Semina* minima, scobiformia, vix curva, utrinque aristata, hilo concavo terminali.—Suffrutices *Nepalenses*. Folia *petiolata, elliptico-oblonga, acuminata, denticulata, 5–7-nervia, superne glabra.* Thyrsus *paniculatus, terminalis.* Flores *albi, subcernui. De Cand.*

Oxyspora *nutans* ; subscandens, ramis nutantibus, foliis subcordato-ovatis acuminatis crenulatis ciliatis, subtus ramulis petiolisque leviter tomentoso-pilosis pilis simplicibus demum fere (vel omnino) glabris, panicula elongata nutante, connectivo antherarum omnium deorsum calcarato, calyce capsulifero costato. *Wall.*

Oxyspora vagans. *Wall. Plant. Asiat. Rar. v.*1. *p.*78. *t.*88. *Wall. Cat. n.*4075.

Melastoma rugosa. *Roxb. MSS. Ej. Icon. pict. in Hort. Bot. Calc. asservata.*

Though not so strikingly beautiful as the *Oxyspora paniculata*, figured by Dr. Wallich in his superb 'Plantæ Asiaticæ Rariores,' yet this is very nearly akin to it ; and but for the well-known accuracy of my valued friend just mentioned, and the fact of his having seen both species in a living state, I should have been disposed to have considered the present a lax-branched and lax-flowered variety of *O. paniculata* :—the more so, as he quotes from Dr. Roxburgh's MSS. a still more lax and drooping variety of this. *O. paniculata* is indeed a stouter and stronger plant, with the stem and panicle erect, and "connectivo antherarum longiorum obsolete calcarato ;" whilst in our plant, which quite accords with the Wallichian specimen in my herbarium, the connectivum of the longer anther is less distinctly spurred than the shorter ones. I possess, too, several specimens from Assam, from Griffith and others, of some among which it is, at least in the dried state, difficult to say to which they should belong. The plant here figured is, however, assuredly the *vagans* of Drs. Roxburgh and Wallich, and has been raised from seeds sent by Dr. Hooker from hilly country bordering on the plains in the approach to Darjeeling. If less showy, it is a more graceful plant than the

paniculata, being truly subscandent and the panicles all very drooping.

Descr. *Shrub* three to five feet high, loosely branched; the *branches* long and weak, drooping, obscurely four-angular, the younger ones tomentose. *Petioles* long. *Leaves* ovate or cordate-ovate, acuminate, five- to seven-nerved, glabrous above, obsoletely downy with short hairs, or quite glabrous below, where also the nerves are very prominent and red. *Panicles* terminal, drooping, lax, often a foot long. Primary branches opposite, secondary forked. *Calyx-tube* elongated, tetragonous, pale reddish-green, with a limb of four small teeth. *Petals* four, of a bright rose-colour, obovate, acute. *Stamens* eight, four long and four short; the four smaller *anthers* are pale-coloured, and have a distinct spur pointing downwards at the back of the connectivum; the four longer ones are deep purple, much curved, and have a small spur. *Style* much decurved. *W. J. H.*

Cult. This showy plant was raised last year from seeds, and this autumn it produced flowers. It is of a slender habit, with long internodes, and is not disposed to produce lateral branches. It grows freely if potted in light loam and leaf-mould, and kept in a moderately warm stove, and propagates readily by cuttings treated in the usual way. *J. S.*

Fig. 1. The two kinds of stamens. 2. Calyx and pistil :—*magnified.*